CALIFORNIA
OIL WORLD

PUBLISHED TWICE A MONTH

2404 WEST 7th ST.
LOS ANGELES 57, CALIFORNIA

PETROLEUM PUBLISHERS, INC.
W. C. MONROE—President and Editor
KINZIE MILLER—Vice President
LARRY O. MILLER, Advertising Manager
RICHARD SNEDDON, Contributing Editor

FRED JONES, Chicago Manager
228 No. La Salle St., Chicago 1, Ill.
HOWARD F. McCLENAHAN—Cleveland Manager
402-1010 Euclid Bldg., Cleveland 15, Ohio
The McKeown Company—New York Representatives
342 Madison Avenue, New York, N. Y.

AUDITED PAID CIRCULATION ABC

• FIRST ISSUE
MAY, 1955
VOL. 48 • NO. 9
WHOLE NO. 1919

California Oil World is published twice a month at 2404 West 7th St., Los Angeles 57, California. Entered as Second-Class Matter, April 29th, 1944, at the post office at Los Angeles, California, under the Act of March 3, 1879. Subscription price $1 per year in U. S. and possessions, $2 in foreign countries including Canada.

Telephone DUnkirk 2-6218
May 15th, 1955

The Application of Low Temperature Separators To High Pressure Gas Condensate Production

By LEE R. JAMISON
The Ohio Oil Company,
Bakersfield, California

Abstract

With the present day competitive situation coupled with the demand for high-gravity condensate it becomes imperative that producers make maximum economical use of the available energy from high pressure gas-condensate wells. Production through a low temperature separator unit makes excellent use of this energy. Yields exceed those from conventional stage trapping by from fifteen to thirty per cent, and water vapor dew points of exit gas are well within the specifications of most gas contracts. Through modification and the addition of supplemental equipment, the operating life of a unit can be increased, operating and maintenance problems held to a minimum, and the application of the unit extended to increase overall lease revenues. There are charts available from any or all of the manufacturers of low temperature equipment, which can be used to help an operator either prove or disprove the application of low temperature separation to his particular gas-condensate production problem.

Introduction

With the increase in demand for natural gas, and with raw condensate selling for $3.00 to $3.50 per barrel, producers are spending more time investigating the various methods of separation available to find the one most suitable to their particular operation. Normally, the method which offers the most economical recovery will be the one the producer utilizes. The energy available in a high pressure gas well is tremendous. A method of production or handling that will make maximum use of that energy offers very intriguing possibilities. Low temperature separation is such a method. A low temperature separator set up is a complete, compact unit. Facilities can be so arranged that everything including traps, exchangers, and meter runs are located on a single, movable skid. Salvage value is high when well pressures drop so low that it is no longer practical to operate. Recov-

FIG. 1- LOW TEMPERATURE SEPARATION UNIT

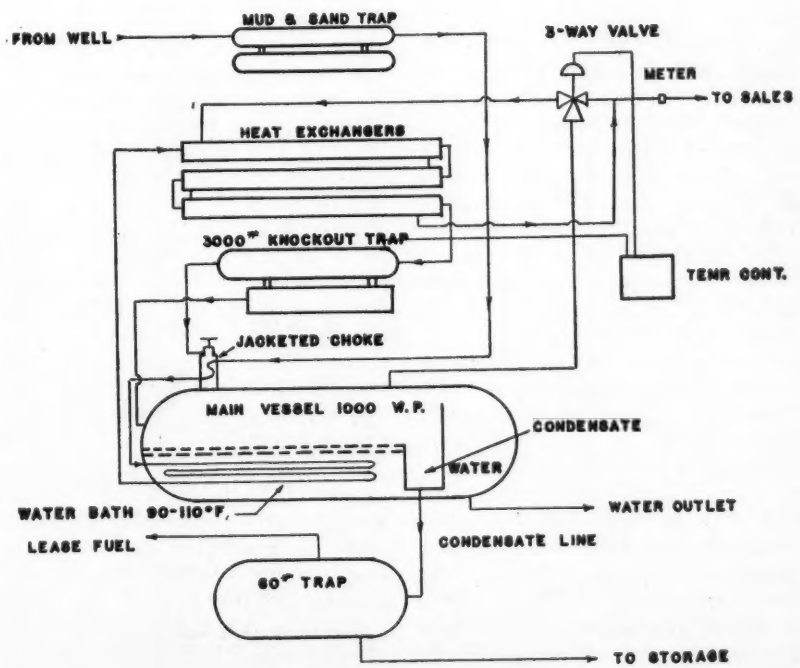
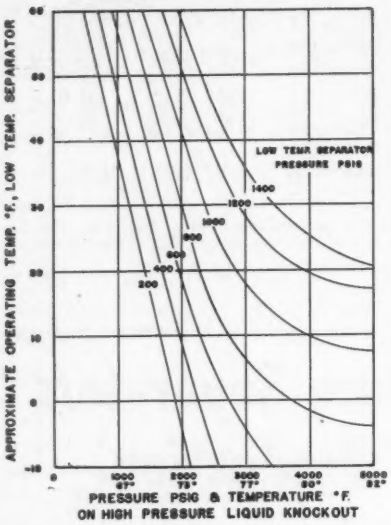


FIG. 2 - PREDICTION OF APPROXIMATE OPERATING TEMPERATURE



ery by this method, when applicable, gives yields exceeding those from conventional trapping by from 15% to 30%. Water vapor dew point of the residue gas is low and in most cases water content will be less than sales contract maximum allowables. With a knowledge of basic operating principles a unit can be adapted economically to meet many of the production problems inherent with high-pressure gas condensate production.

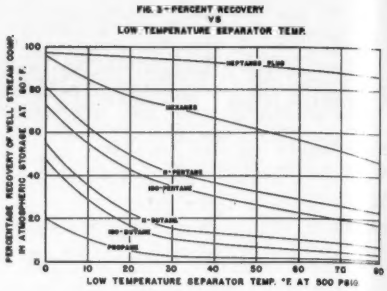
Discussion

The theory involved in low temperature separation is basically simple. It consists of cooling the well stream, at well head pressure, to as near to hydrate temperature as possible, then expanding the gas to sales line pressure through a choke and melting the hydrates as they are formed. The low temperature of the final gas-liquid separation results from the "Joule-Thompson" effect. The mechanics of the operation are not at all complicated; although the actual flow from various well streams may differ because of flow temperature and pressure conditions. Figure 1 is a simple flow diagram of low temperature separator set-up. The normal flow process is as follows: The total well effluent passes first through a mud and sand scrubber, then to a heater (not needed if effluent well head temperature is high). From the heater the stream passes around the outside of the expansion choke and then into a heating coil in the separator. After leaving this coil the stream is cooled in a gas-to-gas exchanger. The amount of cooling is determined by the hydrate temperature and is controlled by a directional flow valve on the cold exit gas to sales. Then it goes to a high pressure liquid knock-out where any condensed liquid is dropped out. The vapor phase material is then expanded from line pressure to sales gas pressure. The hydrates formed during this expansion drop out and are melted by the heat from the coils in the bottom of the separator. The cold gas leaves the separator and passes through the shell side of the heat exchanger serving as coolant for the warmer well-effluent material. The liquid from the knock-out may be stage-trapped to storage or it may be dumped into the main separator to take advantage of the rectification obtained in this type of operation. Liquid hydrocarbon and water are separated in the main vessel and then the hydrocarbon is staged to storage. The water may be dumped to a sump or to any convenient disposal system. The stock tank liquid obtained from a low temperature separator will be a high-gravity condensate.

In order to determine whether low-temperature separation is applicable to any given producing well, the following information is necessary:

Stream composition and flowing well head pressure and sales line pressure. Normally a minimum of 1,000 psi pressure drop between flow pressure and sales line pressure is needed to provide the desired cooling. However, at high pressures, this differential may not be sufficient; refer to Figure 5. A series of charts which may be obtained from any manufacturer can be utilized to estimate actual operating conditions, liquid recovery, and dew point conditions. Charts of this type are included with this paper as Figures 2, 3 and Figure 4 show. Figure 2 is utilized to predict approximate operating temperature of the low temperature separator. This temperature is controlled by the sales line pressure and the pressure and temperature just prior to expansion. Of course the temperature before expansion is limited by the hydrate

FIG. 3 - PERCENT RECOVERY VS LOW TEMPERATURE SEPARATOR TEMP.



temperature for that pressure. From Figure 3 it is possible to obtain the approximate recovery of the various liquefiable components in the well stream. This recovery is based upon the operating temperature obtained from Figure 2 and well stream composition. The approximate water vapor dew point can be obtained using Figure 4 and the estimated operating temperature. Since many gas sales contracts stipulate a maximum water vapor content, this dew point information is very valuable in determining whether the dehydration through the low temperature separator is adequate or if more dehydration will be required. It should be noted that the actual dew point temperatures are below the corresponding operating temperatures. This is only true when the low temperature separator is operating under conditions which favor the formation of hydrates. This dew point depression is attributed to the fact that hydrates exert a lower vapor pressure than liquid water at temperatures below the hydrate point for any given pressure. At 500 pounds this temperature is approximately 55° F.

Literature presented by the various manufacturers of low temperature separators is fairly consistent in the claims for additional recovery over the use of conventional stage trapping. Actual operations have shown that these claims may or may not be correct; however, they are sufficiently accurate to be used in the economic investigation of a low temperature separator application. As an example, let us study an actual operation. Well effluent characteristics as follows:

1. Flowing Pressure, 2,300 psig.
2. Flowing Temperature at 5 MMCF per day = 160° F.
3. Sales line delivery pressure, 475

psig.

4. Effluent Composition:

Comp.	Mol %	Gal. per MCF
C_1	93.22	
C_2	3.43	
C_3	1.45	.398
$_iC_4$	0.20	.067
$_nC_4$	0.50	.163
$_iC_5$ plus	1.20	.480

Use of Figure 2 indicates a low temperature separator operating temperature of approximately 5° F. at 500 psi. Extrapolation of Figure 3 gave the following estimated tank oil recovery:

Comp.	Mol %	Gal. per MCF	
C_3	16	.064	
$_iC_4$	40	.027	
$_nC_4$	50	.087	
$_iC_5$ plus*	90	.432	*Use hexane curve
		.610	= 610 Gal. per MMCF

Theoretical Recovery = 14.5 Bbl. per Million

Actual recovery from this well with the low temperature separator operating at 5° F. was 15.5 barrels per million. Recovery obtained by two-stage conventional trapping was 10.9 barrels per million. To analyze this operation for economics, the theoretical increase in recovery would be 3.6 barrels per million. Assuming a net value of 2.75 per barrel and a production rate of 5 MMCF per day, the daily increase in revenue would be:

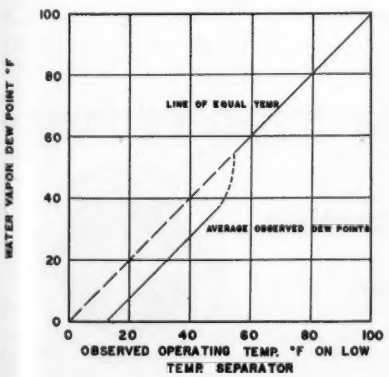
5x3.6x$2.75 = $49.50 per day

With this increase in revenue, it it very easy to justify the additional cost of the installation of a low temperature separator in place of a conventional two-stage trap set up.

Accessory Equipment

There is certain equipment which, although it is not an integral part of the low temperature separator, serves to remove some of the operating problems and to improve efficiency. Some of this accessory equipment should be discussed at this time.

FIG. 4 - AVERAGE DEW POINT DEPRESSION



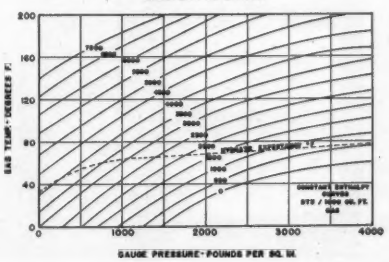
1. A mud and/or sand scrubber is especially desirable. Most of the heat exchange is on a gas-to-gas basis and fouling of exchangers should be kept to a minimum in order to reduce the down time necessary for cleaning. Any drilling mud or fine silt produced will foul the exchange surface in short order and it soon becomes difficult to either maintain a low operating temperature on the separator or possibly to transfer sufficient heat to melt the hydrates as they are formed. The first problem means less recovery and the second means down time to thaw out the main vessel. A scrubber for this purpose can either be obtained from a manufacturer or field fabricated at a reasonable cost. This vessel can also be used as a water knock-out to remove any formation water that may be produced with the gas. The water referred to here is connate water and not water resulting from the condensation of water vapor.

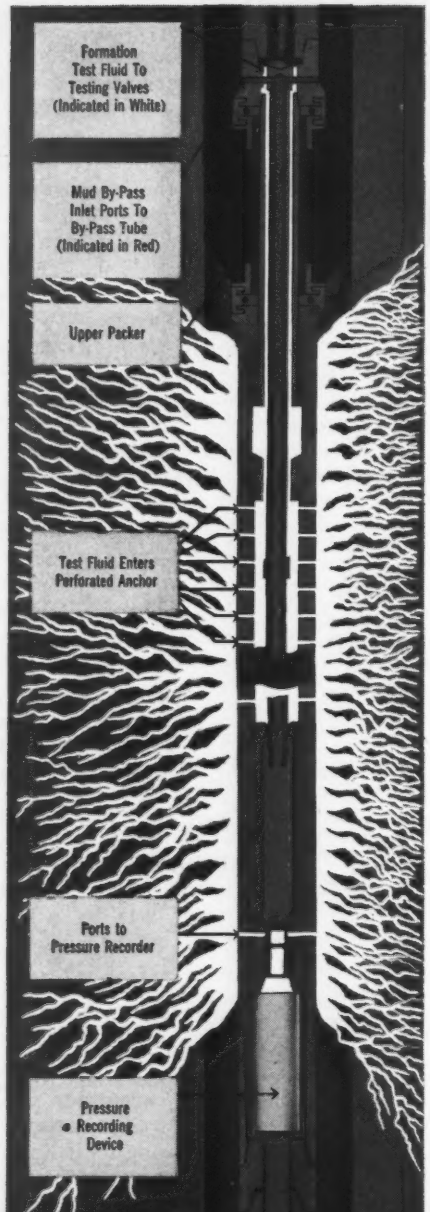
2. Many flow diagrams for a low temperature installation show a gas heater in the system. The purpose of this heater is two-fold; (a) to insure sufficient heat in the well stream to melt the hydrates as they drop out in the main vessel, and (b) to provide the well stream with a temperature, before expansion, above the hydrate point in the high pressure system. This need for additional heat can develop at low flow rates or when the flow line is so long that it in itself serves as an atmospheric cooler. This problem is overcome by the installation of an indirect heater in the system just ahead of the low temperature unit.

3. Conversely to (2) above, it is possible for the well flowing temperature to be high; that is, in excess of that required or designed for in the low temperature system. This problem may be handled by the addition of more heat exchange surface in series with those exchangers integral with the low temperature set up or by the use of a precooler ahead of the entire unit. The facilities at hand will usually determine which method will be used. If the unit is to operate with only periodic attention, the additional exchangers in series probably are the best since the normal cooling by the integral exchanger is automatically controlled. If there are cooling tower facilities available with an operator in attendance, the use of an atmospheric section may be the best solution. An air cooled section such as a fin-fan system can also be used. The author is familiar with this particular problem and a solution as follows:

Well stream temperature at a 5 MMCF per day rate was 160° F. The exchanger surface on the low temperature separator was designed on the basis of entry gas at 125° F. Additional cooling was provided by the construction of a small atmospheric tower 12'x25'. Fabrication of the tower was by a local lumber company and the coils were made up by a contract welder. Circulation was provided by a small gasoline motor driven pump. Make up water was from the water vapor condensed and separated out in the low temperature separator. Although the tower was undoubtedly not as efficient as one built by the industry it served the purpose and it was possible to cool the well stream to 120° F. even when the ambient air temperature was 110° F. Cost of construction was reasonable and the unit was in operation in less than a week. Other operators

FIG. 5 - NATURAL GAS EXPANSION-TEMP. REDUCTION CURVE BASED ON .7 SP. GR. GAS




Formation Test Fluid To Testing Valves (Indicated in White)
Mud By-Pass Inlet Ports To By-Pass Tube (Indicated in Red)
Upper Packer
Test Fluid Enters Perforated Anchor
Ports to Pressure Recorder
Pressure Recording Device
Lower Packer
Mud By-Pass Outlet Ports
Supporting Anchor Or Setting Tool

Straddle Testing

in open hole another Johnston first*

Now, with complete confidence, you can...

- EVALUATE UP-THE-HOLE ZONES
- LOCATE GAS, OIL, AND WATER CONTACT
- HELP PROTECT HOLE AND SUPPORTING ANCHOR

See how Johnston Straddle Testing with STRADDLE MUD BY-PASS maintains full hydrostatic mud pressure on upper and lower packers—and on all formations below lower packer. Lessens the load on supporting anchor and prevents production from any lower zone in the event of lower packer failure. Should either packer fail, you get an immediate surface indication. Get all these advantages plus ease of running tool into and out of the hole.

*Johnston Straddle Testing with Straddle Mud By-Pass is covered by patent and patents pending. Another Johnston first!

for descriptive folder write to:

JOHNSTON TESTERS

first in drill stem testing

P. O. Box 98,
HOUSTON, TEXAS

LOS ANGELES, CALIF • CALGARY, CAN.

FORMATION AND CASING TESTING
JOHNSTON
ST 551

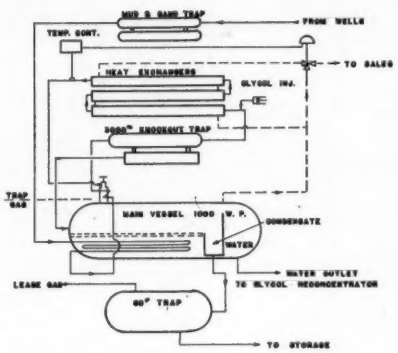
in the same field without precoolers were obtaining from 11 to 12 barrels per MMCF, whereas the above unit was yielding 15 barrels per MMCF from gas of the same composition. Additional space in the tower was later used for cooling Black Oil production available on the same lease giving higher gravities and stock tank yields. More on this subject will be covered later.

Glycol Injection

Normally, low temperature separation equipment is used with a depletion-type reservoir production mechanism. This means that the available pressure drop for cooling purposes is gradually decreasing and therefore the operating temperature will rise with time. The precooling of a gas stream before expansion is limited to hydrate temperature at any given pressure. Reference to Figure 5 shows that for a 0.7° gravity gas the expected hydrate temperature at 2,000 psig is approximately 72° F., whereas at 1,500 psig it is 68°. In expansion from 2,000 psig and 72° F. to 500 psig, a low temperature separator would operate at approximately 0° F.; likewise, expansion of the same gas from 1,500 psig and 68° F. would result in a gas temperature at 500 psig of approximately plus 15° F. In other words, in order to hold the operating temperature at 0° F. it would be necessary to precool the gas at 1,500 psig to 53° F. or 15° below the hydrate temperature. To utilize this precooling, hydrate formation ahead of the expansion choke must be inhibited. This can be accomplished by means of the injection of glycol. Figure 6 is a flow diagram showing the modification of a conventional low temperature unit. The principal change in flow is that the high pressure knock-out precedes the gas-to-gas exchanger and that glycol is injected just ahead of the exchanger.

Although the temperature controller is not necessary, it may be placed with the sensing element just ahead of the expansion choke; this would permit conventional operation if the glycol injection system should fail. The change over to a glycol injection system is relatively simple. The only additional equipment necessary is a glycol regenerator and an injection pump, unless the well produces considerable soft water and then a free water knock-out is a must. Separation facilities for hydrocarbon and glycol ordinarily exist within the main vessel of the low temperature separator. It is possible to buy from the industry glycol-injection low temperature separation equipment at prices only slightly higher than conventional low temperature separators. With the use of glycol injection, it is possible to obtain sub-zero operating temperatures. Actual tests conducted gave an operating temperature of minus 35° F. Analysis of exit gas obtained with the main vessel operating at minus 20° F. showed a residue of butanes plus of 0.03 GPM. This compares very favorably with an absorption plant, yet investment and operating costs are only a fraction of those in a conventional plant.

FIG. 6-FLOW DIAGRAM OF LTS REVISED FOR GLYCOL DEHYDRATION



Processing of Low Pressure Trap Gas

Normally with a glycol system the exit gas to sales will be relatively cold, even after exchange with the warm entering gas. This residue gas, therefore, is a source of cooling for some other gas or liquid stream. The author would like to present an interesting and practical use of this cooling. On a lease where a glycol injection low temperature separator was operating, there was also available approximately 2 MMCF per day of wet trap gas going to the sales line at approximately 475 psig and 110° F. The low temperature unit was processing about 5 MMCF per day of condensate gas with an operating temperature of 0° F. A series of fin type exchangers were installed and the trap gas was cooled from 110° to 70° by exchange with the low temperature exit gas. This trap gas was then entered into the main vessel through the liquid entry line, with a small amount of glycol injected just ahead of the entry point to prevent freezing. This resulted in an overall operating temperature of the low temperature unit of approximately 20° F. The following is the liquid content of the composite sales gas before and after processing the trap gas:

Comp.	Before GMP	After GMP	Additional Recovery
C_3	.714	.488	0.226
$_iC_4$	.118	.088	0.030
$_nC_4$	.221	.139	0.082
$_iC_5$	.145	.087	0.058
			0.396
		$_iC_4+$	0.170

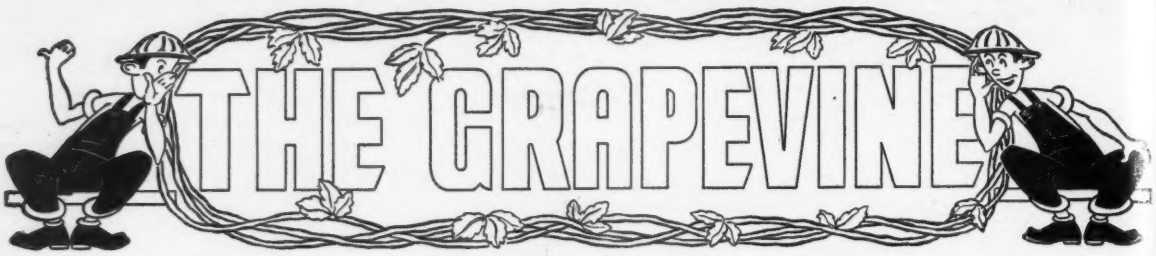
On the basis of 7 MMCF per day total gas, additional recovery of Iso-butane plus was .170x7,000 = 1,190 gallons or 28.3 barrels per day. At a net of $2.75 per barrel, increased revenue would be $77.90 per day. Cost of installation of fin type exchangers was approximately $1,100, and payout for this change-over was 15 days. Although the above application is limited and its success depends upon the facilities at hand, the possibilities merit consideration. Many times it is impractical and uneconomical to process low pressure wet gas for the salable liquids. The investment involved or the processing charges by an outside operator prohibit the recovery of these liquids and the producer must therefore sell his gas wet. However, if a glycol low temperature unit is available, a few simple heat balance and flash calculations will either prove or disprove an application similar to the example above.

Conclusions

1. The low temperature separator is a production facility which makes excellent use of the intrinsic energy available in a high pressure gas-condensate system.

2. With only a moderate increase in investment costs over and above the installation of conventional stage

(Continued on Page 12)



By RICHARD SNEDDON

We Visit the Snake Pit

For the past two weeks we have been doing our civic duty as a juror in the Supreme Court of Los Angeles County and it has been a very interesting and illuminating experience. We foregather in an assembly room down at the corner of Temple and Broadway, popularly known as the "snake pit" and there, while awaiting a summons to one or other of the scattered courtrooms, we fraternize with our fellow jurors. We have been agreeably surprised at the high intelligence of these people. Among them are folk in all walks of life and with every known type of disposition but when a case is closed and they are asked to decide the guilt or innocence of some unfortunate being they really get down to serious deliberation and they weigh the pertinent matters in evidence with commendable rationality. We have been impressed, too, with the fine character of the Supreme Court judges. It is our good fortune to be on a case in Department 43 which is presided over by Judge Fricke and we would just like to remark that as long as the administration of justice is supervised by such well informed, eminently fair, and completely logical persons as this distinguished gentleman, the people of Los Angeles County can relax in the comforting knowledge that the law is in good hands.

Pegasusian Entanglement

Among the jurors with whom we have become acquainted is a nice looking young New Yorker, Joe Simpson, who is in payroll accounting for General Petroleum Corporation. During some idle moments we engaged this lad in a checker contest and were whipped three times with humiliating rapidity. Then we discovered that Joe was using sixteen checkers to our twelve whereat we felt much better and immediately started a second series of games to prove that we weren't quite so dumb as it might appear. However, our opponent carried us through another three jousts with little change in result excepting that this time we were humiliated even more rapidly and have now fully and finally decided that we'd better stick with tether-ball. Incidentally, one of the questions regularly asked by the attorneys when checking on the acceptability of the jurors is, "Have you ever studied law?" To this Joe Simpson replied, "Yes, I have studied corporation law." "Well," continued the attorney, "will you promise to forget all the law you have learned and accept the law, specifically pertaining to this case, as it will be given to you later by His Honor?" "I have already forgotten all the law I ever learned," said Joe, while the courtroom tittered and Judge Fricke shyly remarked, "It might be a good thing if the attorneys would forget some of the law they appear to have learned!"

Aid for Inadequate Fishermen

From the Curry County Reporter of Gold Beach, Oregon, we cull an interesting item involving Harry Dahl, the chap who cleaned up at the Petroleum Club Del Mar Day last year. It appears that because of his arthritis, Harry can't pull in the big fish any more, so he has invented an electrical gadget to help him do the job. This consists of a 300 yard reel, actuated by a small motor, through a flexible shaft and appropriate gears. The motor is run from a storage battery and can be operated at will by a switch on the side of the rod. Its function, of course, is to take up the slack and relieve the angler of the need to do a lot of heavy reeling. According to the newspaper story, Harry demonstrated the efficacy of his invention in a first try up on the Rogue River recently by landing a 20-pound salmon in less than 10 minutes. We understand that the fish was pretty thoroughly disgusted when he found that he had been hoodwinked by automation. Harry plans to patent his power reel and thinks it will be a great boon to people who are handicapped either by age or infirmity, or as in our own case, by both. He tells us, by the way that he is currently working on an even more exciting invention, an electronic telereel that will enable Waltonians to land their fish without ever leaving home—a sort of nuclear fishin', if you know what we mean.

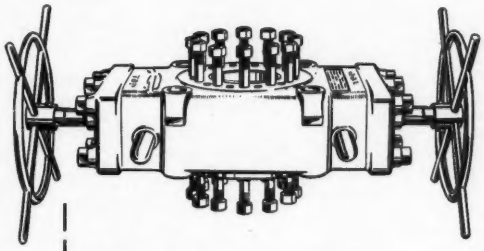
Pre-Party Predicament

Tom Ashe, the Globe Oil Tools Company higher-up, had an exciting adventure some time ago. He was to attend a party on a Sunday evening and being one of these meticulous chaps who dresses correctly on all occasions, he sent his blue suit out to be cleaned and pressed. When he was due to pick it up on Saturday night he found to his dismay that the cleaning establishment was closed and since he couldn't find a residential phone number for the owner, he called his friend, the local chief of police and asked him where the missing person might be found. The Chief didn't know either but he told Tom not to worry, he was quite sure that he could

Perfect for Work-over Rigs...

Guiberson BLOWOUT PREVENTER

with Chain Drive



TYPE A
BLOWOUT PREVENTER
MANUAL DRIVE

- This work-over special is also ideal for small hole drilling.
- Chain drive provides tight seal with one man operation.
- Two types — A for working pressures to 3000 psi (6000 psi test) — 7⅜" opening. Manual or chain drive.

  B for working pressures to 2000 psi (4000 psi test)—9-1/16" opening. Chain drive only.
- Short and compact design — body is only 11½" high.
- Keeps well head equipment close to ground.
- Designed to use two preventers in combination without need of flanged adapters.
- Connecting tie bolts and nuts furnished at no extra cost on original sale of dual preventers.
- Universal slide designed to handle blank rubbers or 2", 2½", 3", 3½", 4" tubing sizes or 5½", 7" casing sizes.

SAFE THAN SORRY — GUIBERSON — BETTER BE

THE
GUIBERSON
CORPORATION
ESTABLISHED 1919 • DALLAS, TEXAS, U. S. A.
Sold By Leading Oil Field Supply Stores Everywhere

get the suit for him. He suggested that Tom be at the cleaning place at a certain time on Sunday morning and all would be well. Meantime, he advised some of his minions of the situation, explaining that the man who wanted the suit was a pretty important individual—a vice president.

Mixed Vice Presidents

The result was that when Tom arrived on the scene next morning, he found the place literally swarming with policemen and other city officials, all of whom had somehow acquired the impression that it was another vice president, by the name of Nixon, who owned the blue suit. When Tom finally wandered into the store and took possession, he got some pretty nasty looks from the disappointed cops but, anyway, he managed to take in the projected party with his usual sartorial exactitude. So that, even if he did lose a few friends on the force, he was able to maintain his unsullied reputation as one of the industry's best dressed members, and is probably the only oil man in California who was ever mistaken for the Vice President of the United States.

API Spring Meeting

The API spring conventicle was a lovely affair at which Oran Graybeal, Chuck Gates, and Company did a wonderful job. They were ably assisted, of course, by Jack Hulihan, the Bethlehem Hibernian, chairman of general arrangements, whose good lady is Charlie Perkins' amanuensis, and used to be Union Oil Company tennis champ in the days when we ourself were fanning the air into a froth with little result; Ken Nicolson, the Standard of Cal. field operations expert, and chairman of the drilling committee, who is a larger edition of his brother Garth, the BJ veep; and is also a quietly competent sort of a chap; and Frank Lloyd, the noted Richfield evaluation engineer, who is one of California U's most consistent rooters, and a top authority on deep well pumping. It was too bad that jury duty prevented our sitting in on a press conference at which L. F. McCollum, president of Continental

THE PASSING OF JERRY BOWEN

California oil men were shocked recently by the sudden death of Lot P. "Jerry" Bowen, manager of personnel and employee relations for Western Gulf Oil Company. As an unusually active member and past chairman of the California chapter of American Petroleum Institute, Jerry had become widely and favorably known nationally as well as here in his home territory. He was born in the city of Los Angeles, attended Poly High and was later graduated with an A.B. in geology from University of California at Berkeley. Immediately upon graduation in 1924 he began his oil career as a geologist with Western Gulf and never changed his affiliation. During the early development of the Fruitvale area by his company, Jerry functioned ably as field superintendent. It was about this time, incidentally, that his interest in API was aroused and it was never known to wane throughout the remainder of his life, to which many citations and at least one outstanding award bear testimony. In recent years he was assigned to the top spot in the personnel and industrial relations department of Western Gulf and applied himself just as assiduously and effectively to that as he had done to his geological work and his API interests. Jerry was an indefatigable worker, nonetheless he took time to cultivate a host of friends along the way and we were more than pleased to be counted among them.

He met his wife, Rachel Bedford (sister of Ed Bedford, Western Gulf's land man), in Oxnard while she was teaching school there and he was officiating as geologist on a wildcat well. They made their home in Altadena and had two children, Betsy, now Mrs. Fred Butler whose husband is a newspaper man in Riverside; and John E. Bowen, a son, who will be graduated in geology from University of Southern California next February.

Jerry was a kindly, self-effacing and totally undemonstrative chap who accomplished in a very substantial way, with the minimum of fuss. He was definitely what his fellow oil men would call "a right guy" and his death occasions a real sense of loss to his many associates and friends. To his family and relatives whose loss is infinitely greater, we tender our sincerest sympathy!

Oil Company, and his very able vice president in charge of western operations, Olen Lane, were the guests. However, we heard Mr. McCollum's later address on Supply and Demand and enjoyed it very much, especially the part about drilling a dry hole in Egypt with Charlie Jones.

With the Sargent Boys

We managed to attend the dinner on Thursday evening and met such a stash of interesting people we can't remember a tenth of them. Among them were Bill Sargent, one of the few equipment executives we know who is actually jet propelled. Bill has a take-off speed in excess of 800 miles an hour and is utterly unhappy with anything remotely approaching inertia. He was convoying one, Senor Mario Montenegro, director general of the Bolivian Ministry of Mines, who is looking over our petroleum tools and techniques before returning to his native land. The latter is a handsome young chap who, although apologetic about his English vocabulary and enunciation, handles the language better than most of us do here. Also hovering in the background was Pert Sargent, a slightly more relaxed member of the same august family and institution as Bill, who is doing a very nice job of holding old friends and making new ones for himself and his firm; and Verdin Kelley, the good looking Sargent public relationist.

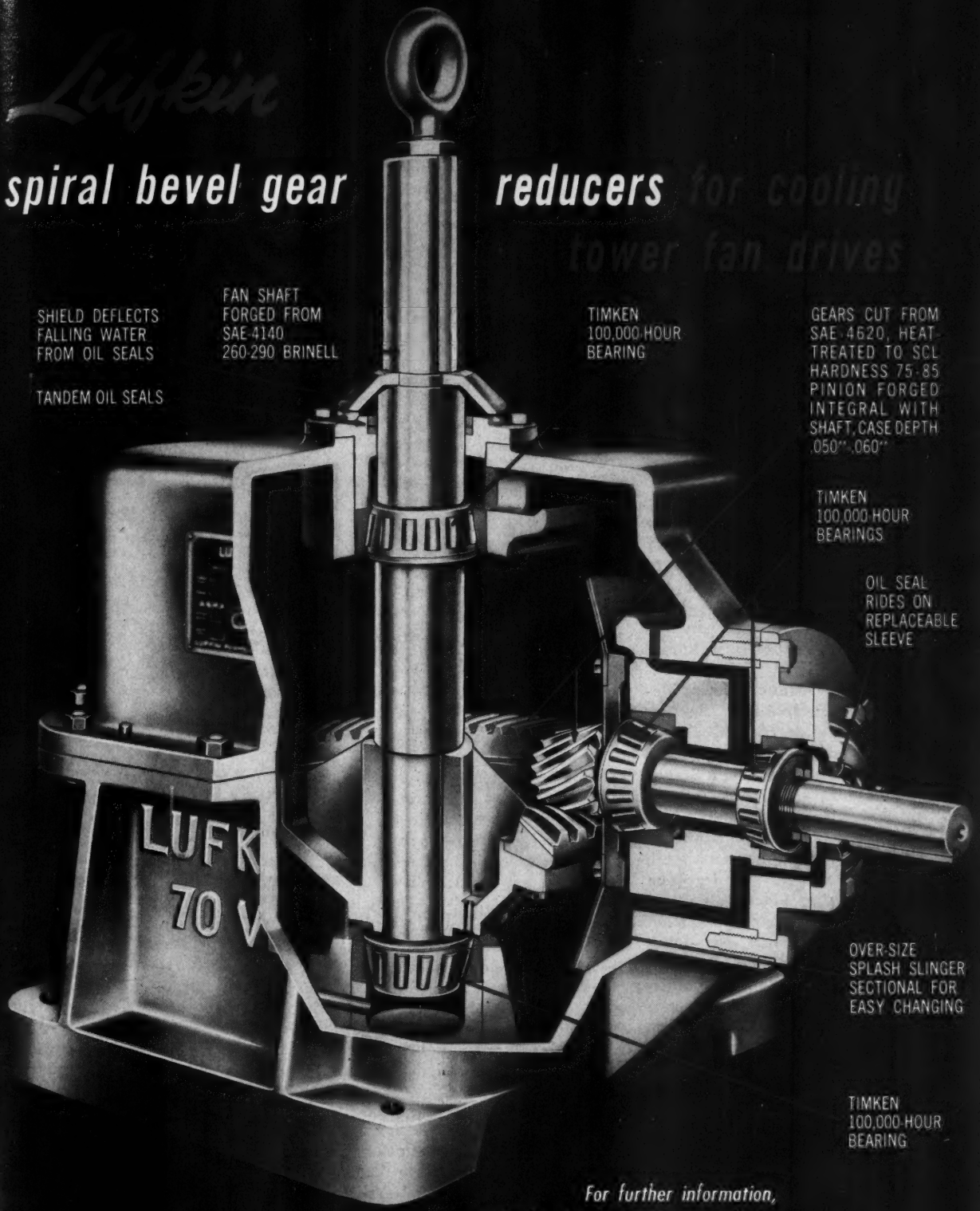
We Go Visiting

During the evening we, as is our custom, fluttered hither and yon, making something of a nuisance of ourself but nonetheless greeting a lot of right nice people. Frinstance, Hut Erwin, the McCullough Tool Company behemoth, who is also the inventor of a shower head that is practically revolutionizing the business of taking a bath; Sam Grinsfelder, the genial Union Oil Company veep, who brought us the unique campus yell of Spokane Central High, as follows and to wit:

"Hyperbola paraboloid
Tangent to a helicoid
Round elipsoid, tan-co-tan

Lufkin

spiral bevel gear reducers for cooling tower fan drives


SHIELD DEFLECTS FALLING WATER FROM OIL SEALS
TANDEM OIL SEALS
FAN SHAFT FORGED FROM SAE-4140 260-290 BRINELL
TIMKEN 100,000-HOUR BEARING
GEARS CUT FROM SAE-4620, HEAT-TREATED TO SCL HARDNESS 75-85 PINION FORGED INTEGRAL WITH SHAFT, CASE DEPTH .050"-.060"
TIMKEN 100,000-HOUR BEARINGS
OIL SEAL RIDES ON REPLACEABLE SLEEVE
OVER-SIZE SPLASH SLINGER SECTIONAL FOR EASY CHANGING
TIMKEN 100,000-HOUR BEARING

For further information, write for our Cooling Tower Bulletins

Lufkin **FOUNDRY & MACHINE COMPANY**

LUFKIN, TEXAS

Branch Sales and Service: Houston • Dallas • New York • Tulsa • Los Angeles • Seminole • Oklahoma City • Corpus Christi • Odessa Kilgore • Wichita Falls • Casper, Wyoming • Great Bend, Kansas • Effingham, Illinois • Duncan, Oklahoma Brookhaven, Mississippi • El Dorado, Arkansas

ON THE WEST COAST, 5959 South Alameda, Los Angeles

Central High of North Spokane." Then there were Bill Bettis and an interesting young Chilean, Patricio Del Solar, with whom we visited the Johnston Testers' quarters upstairs and, bless our soul, if there wasn't Davy Crockett in the flesh, playing something that remotely resembled gin rummy with Earl Hittson, and chuckling no end every time he laid his cards on the table. Davy, Bakersfield rep for the Johnston people, comes from a long line of Davy Crocketts that may reach right back to the one we've all been singing about. Incidentally, we were hosted there by a generous young lad, named Dale Hayes, and had a chance to say hello to Dick Stanier, the affable west coast manager.

We Are Hosted by Chevron

Prior to the main doings we joined the considerable group of cocktailers who migrated to Standard's party over at the University Club and shook hands there with many important Chevronites, including George O'Brien, Jules Toussaint, Jim Gosline, Elmer Oleson, Warren Johnson, Lin Little, Al Tietze, Bill Cochems, Mal Morris, Clint Furrer, Marc Mattson who is almost a Standard Oiler, and many others. Milling about were such a raft of notables, we shouldn't mention any without mentioning all. Anyway, we did glimpse John McLeod, the Macco chieftain, and his sales director, John Robinson; Ernie Parks, the popular consultant; Jud Saatjian, the Texas Company pitch expert; Roy Johnson, the Republic Supply Company executive and boogie beater; Red Aubert, the Bankline prexy, and Eddie Bartosh, everybody's buddy; Ted Sutter, the Baker Oil Tools veep, soon leaving for Rome; Walter English, the veteran geologist; Russ Green, the recently elevated Signal Oil & Gas Company executive, and two of his top hands, Dutch Lortscher, one of the industry's travelingest PA's, and Ed Stroud, the collegiate looking chap who has more years in the oil business than a lot of folk who call themselves old-timers; Jud Hillman, the front half of Hillman-Kelley, and so on and so on. Sorry, no room. This annual event is one of the nicest on the petroleum calendar and we are grateful to Standard Oil Company for the opportunity to be present.

Gustav Egloff Dies

We note with deep regret the death of one of the oil industry's most productive and in all respects most distinguished people—Dr. Gustav Egloff, director of research for Universal Oil Products. On the day we arrived in Los Angeles in late 1923, we were taken to an American Chemical Society meeting by a local friend and the featured speaker at that meeting was Dr. Egloff. Since that time we have never quite lost sight of him. He was one of the most prolific speakers and writers on the chemistry of petroleum, and all aspects of refining and related subjects, that the industry has ever known. He was a world recognized authority on the many devices and techniques employed for forming and reforming the natural components of petroleum into products for a thousand uses. A tireless campaigner, he has been for the past 30 years our No. 1 public relationist. Although a profound scientist he had the rare faculty of being able to translate the polysyllabics of his profession into terms that were excitingly intelligible to the layman. Dr. Egloff was a showman at heart and his presentations were always dramatic and indelibly impressive. He stomped the world in behalf of petroleum and its people and it is doubtful if any man in the United States has been the recipient of more honors, at home and abroad than this dynamic gentleman. His death is a great loss to all of us!

Quick Bits

By way of last minute roundup, while jury duty kept us away from the 19ers' assembly at Stockdale, we understand it was a whingding of the highest order. Winners of the golf tourney on the first day were that free swinging lefty, Henry Paulsen, and the Star of Bethlehem, Rodger Brown. Second day winners were John Robinson, the dapper Macconian, and Jim MacDonald, the laddie with the straightest left arm in western golf. We hear tell that Roy Johnson and Bill Farrar, the inimitable entertainers, were in top form on Saturday night and really had the boys rolling in the aisle. Lee Laird has set up his own organization, Laird Equipment & Sales Co., at 2222 East Spring Street, Long Beach, handling Cardwell service and parts. Dave Carnahan has left Emsco and is now functioning as chief engineer for Drillex. Congratulations to Dick Dye, the Oceanic Oil Company legal whiz, on his elevation to a vice presidency!

Low Temperature Separators

(Continued from Page 7)

trapping, a low temperature separator, where applicable, gives higher recoveries by 15 to 30 per cent.

3. The addition of glycol injection system to a low temperature separator will increase the yields initially by permitting lower operating temperatures. In addition, it will extend the ultimate effective life of the unit by assisting the mechanism for cooling at lower pressure drops from flowing pressure to sales line pressure.

4. There are certain items of equipment such as pre-coolers, heaters, and mud scrubbers which, although not absolutely necessary, will assist in recovery and reduce operating and maintenance cost.

5. An understanding of the basic principles and concepts of low temperature separation may permit an operator to increase his over-all lease revenue by the use and modification of low temperature separation equipment.

Acknowledgment

The author would like to express his appreciation to Mr. Walter C. Sheldon, of the Ohio Oil Company, the National Tank Company and Parkersburg Rig and Reel Company; through their assistance this paper is made possible.

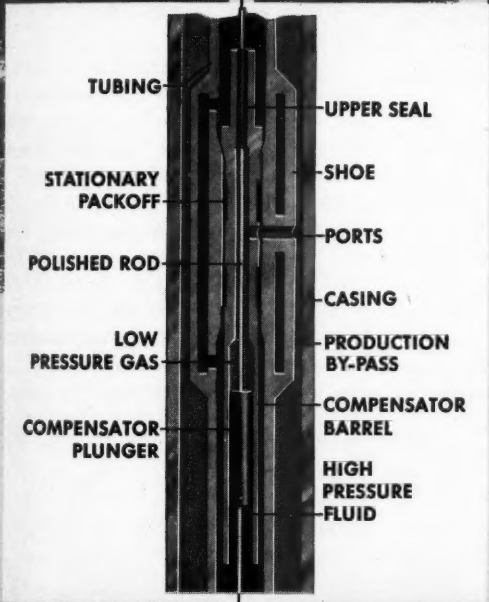
Presented before Spring Meeting Pacific Coast Division of Production, A. P. I.

SOMETHING FOR NOTHING

sounds mighty appealing, but like "lifting yourself by your bootstraps," it is in violation of the basic laws of science. Therefore, when we first told oil men how much weight reduction could be expected from a Rod Weight Compensator, they were skeptical and started calling the Compensator "Operation Bootstrap." That was when "Bootstrap Joe" came into being and we like to think of him as symbolic of the mighty upward thrust delivered midway down the rod string by the application of the hydrostatic pressure on the Compensator plunger.

But now the story has changed. Operators have witnessed installation after installation where the dead weight of the sucker rod string has been reduced by 33%. Now they are telling us it isn't "Operation Bootstrap" at all — that a Compensator is actually a two stage counterbalance with part of the rod load balanced out half way down the well. Others tell us we have placed an upside down pump in the middle of the rod string, and the lower pump only moves the fluid to the Compensator on the upstroke, while the Compensator boosts it to the surface on the downstroke.

We still like to believe in "Bootstrap Joe," but we don't argue. We do know that an Oilmaster Rod Weight Compensator permits more oil to be produced from greater depths than any other known means of sucker rod pumping. If deep well pumping is your problem, we suggest you get in touch with your Oilmaster Representative for further details on the...



oilmaster PUMPS FOREMOST IN THE INDUSTRY

oilmaster
ROD WEIGHT COMPENSATOR

U. S. Patent No. 2687697

FLUID PACKED PUMP COMPANY, P. O. Box 64 • Los Nietos, California

Main Office and Plant, Los Nietos, Calif. • Dist. by the National Supply Co., Pittsburgh, Pa. Export: The National Supply Co., Inc., Export Division 600 Fifth Avenue, New York • Co-Distributors: Berry Supply Store, Beacon Supply Co., Industrial Supply Co.

Sunray Oil Corporation Adds New Sand In Guijarral Hills Sector of Fresno County

Sunray Oil Corporation, organized in 1920 and one of the country's leading independents in the producing, refining and marketing divisions of the petroleum industry, has verified a new oil sand discovery in the Guijarral Hills of Fresno County.

The new zone was exposed through the medium of the company's Fred Smith No. A-76-34 well on Section 34-20s-16e, which was originally completed in December of 1949 from the Allison sand in intervals perforated at 8213-8233 feet and 8238-8253 feet for a primary output of 496 barrels of 40.5 gravity oil and 339,000 cubic feet of gas daily under restrictions.

Later suspended by ensuing and disappointing events, Sunray the other month went back to the project and launched a series of tests uphole and from the interval of 7885-7908 feet recompleted for an initial yield of 750 barrels of 36.2 gravity oil a day. Production at last reports was at the rate of 520 barrels of 35.3 gravity oil through a 15/64-inch choke a day, along with 525,000 cubic feet. Plugged-back depth is 8120 feet. Seeking to duplicate what happened with the Fred Smith well, Sunray is currently paying a return visit to Allison No. 52-34 well. Also in the older producer category, the Allison well is roughly half a mile northwest of the new recompletion.

W. C. (Bill) Whaley, Sunray president since 1952, has many friends in California.

He joined Sunray in June, 1950, as a director and vice president when Barnsdall was merged with Sunray.

Whaley began his oil career in 1910 and became associated with Barnsdall in 1924. He became vice president of that organization in 1931 and was made general manager of company California operations in 1941.

Sunray regards its active participation in the Guijarral Hills field, 200 miles south of San Francisco, and its interests in the Newhall-Potrero field, 40 miles north of Los Angeles, as among its strongest assets. Also not to be overlooked is the Beehive Bend field in Glenn County, discovered by the company.

The company at present has a program of 10 drilling jobs in the multizoned Sacramento Valley gas field and already has six or seven wells completed.

They are off production awaiting finalities of a pipeline under construction. Sale of gas from the field is slated to begin in the fourth quarter of 1955.

Coalinga Test

Of more than ordinary interest is Sunray's Pauson No. 42-36 wildcat well, starting on Section 36-18s-15e, one and one-half miles northwest of the East Coalinga Extension field in Fresno County.

The drill site is not many miles north of shallow wells, but the new effort is designed to dig to 9500 feet for the Gatchell sand.

In Ventura County, the company is drilling not far above the 10,000-foot level with its Sunray-Ohio-Kraemer-Del Cielo No. 1 test on Section 31-2n-22w. The Sunray-Ohio combine accounted for a new deep pool discovery in the sector some months ago with Bailard-McGrath No. 1 on the same section. It was finaled in Sespe sand at 11,748-11,792, after drilling to a total depth of 13,462 feet.

Sunray, whose headquarters are in Tulsa, maintains district offices in Los Angeles, Oklahoma City, Okla.; Great Bend, Kans.; Midland and Corpus Christi, Tex.; Lewisville, Ark., and Lake Charles, La.

Sunray's Canadian subsidiary, Sunray Oil Company, owns a 25 per cent interest in more than 2,000,000 acres in the Canadian province of British Columbia alone. Approximately 1,000,000 acres of this vast spread of ground are regarded as on the trend of Fort St. John production, discovered by Pacific Petroleums in 1951.

As of December 7, 1954, Sunray held 403,050 shares of Peace River Natural Gas Company, 63,300 shares of Pacific Petroleums Ltd., and 21,278 shares of Canadian-Atlantic Oil Company.

The company last fall sold its asphalt and products refinery at Santa Maria and its crude oil production in the adjacent area to Union Oil Company.

It was explained at the time of sale that the Santa Maria plant was considerable removed from the company's other refining and sales operations, centered mainly in the Mid-Continent area.

The heavy crudes produced at Santa Maria are readily adaptable for processing at the new petroleum coking plant owned by Union at Santa Maria.

Sunray, whose more than 70,000 stockholders reside everywhere in the country, is concentrating more and more on exploration and development of crude oil.

In the Newhall-Potrero field, discovered by Barnsdall in 1937, Sunray has just completed its No. 129-6 well at 10,514 for 450 barrels of 26 gravity oil and 244,000 cubic feet of gas a day. The company at present has two additional strings of tools working in the field, which reposes on one of the most famous Spanish grants——the Rancho San Francisco.

Idaho

A small gas discovery in the Payette area, Payette County, is being completed. This is the third test drilled by Oroco Oil and Gas Co. The other two, in Malheur County, Oregon, had gas shows but were not completed because of water and unconsolidated conditions. Total depth at the new well is 1402 feet, with casing landed at 1382 feet. The flow measured 196,000 cubic feet per day. Some major companies, including Stanolind Oil and Gas Co. and El Paso Natural Gas Co., have leased blocks in this Oregon-Idaho region.

Rocky Mountain NEWS

Colorado—Idaho—Montana—New Mexico—Utah—Wyoming—Western Canada

General

Construction of the long-planned Pacific Northwest Pipeline has begun. Forty miles were laid in April. The May schedule calls for 125 miles with an increasing schedule for the balance. C. R. Williams, president, has announced the start on the 1446-mile line which will carry natural gas from the San Juan Basin in the Four Corners area of the Southwest to the Pacific Northwest. The intervening basins along the western slope of the Rocky Mountains through which the line will pass have already recorded the line's impact with a hastening drilling pace. Williams has estimated that there will be some deliveries along the line before the end of 1955. When the line is completed sometime during 1956, it will furnish natural gas to the last great section of the nation not supplied with it.

Planning for the line has been maturing for the past three years. Long hearings, international complications and legal battles have all been present at the birth of the project. PNW won its right to build the line against competition from two Canadian firms who asked the Federal Power Commission for authority to supply the needs of the Pacific Northwest with gas from the great reserves in western Canada. In a surprise decision, after its staff had recommended turning down the PNW project, the FPC gave approval to the PNW line last June. The project was clinched in December when PNW joined a former competitor, Westcoast Natural Gas Transmissions Co., a Canadian firm, to acquire a supplemental supply for the Pacific Northwest. With a supplemental supply from Canada assured, El Paso Natural Gas Co. joined PNW in an arrangement for El Paso to build a line from Idaho to northern California. The Canadian supplemental gas will make it possible for PNW to furnish gas to the California project.

A secondary project whose construction start is now, probably, only days away, is the Colorado Interstate Gas Co. line from Rock Springs, Wyo., to Denver. CIG will take gas from PNW at Rock Springs, pick up more gas from shut in production in the eastern Green River Basin and the Laramie Basin and deliver it to the Denver metropolitan area and other cities of northeast Colorado.

EARL PRICE'S LOG LIBRARY

A Department of

EARL M. PRICE AND COMPANY

Makers of fine blueprints for the oil industry since 1927.

NOW COLLECTING logs of Central & Northern California wells (Kern & Santa Barbara Counties up), also Nevada, Oregon & Washington.

***OPERATORS Have Choice* of releasing logs through us to all customers, or to those on a stipulated list, or they may require that approval be obtained in individual cases. When desired, we furnish operator a monthly list of logs of his wells we have printed, & buyers.**

TELL US YOUR NEEDS. We solicit your logs, but only with signed permission to print and sell copies.

1600 G St., Bakersfield

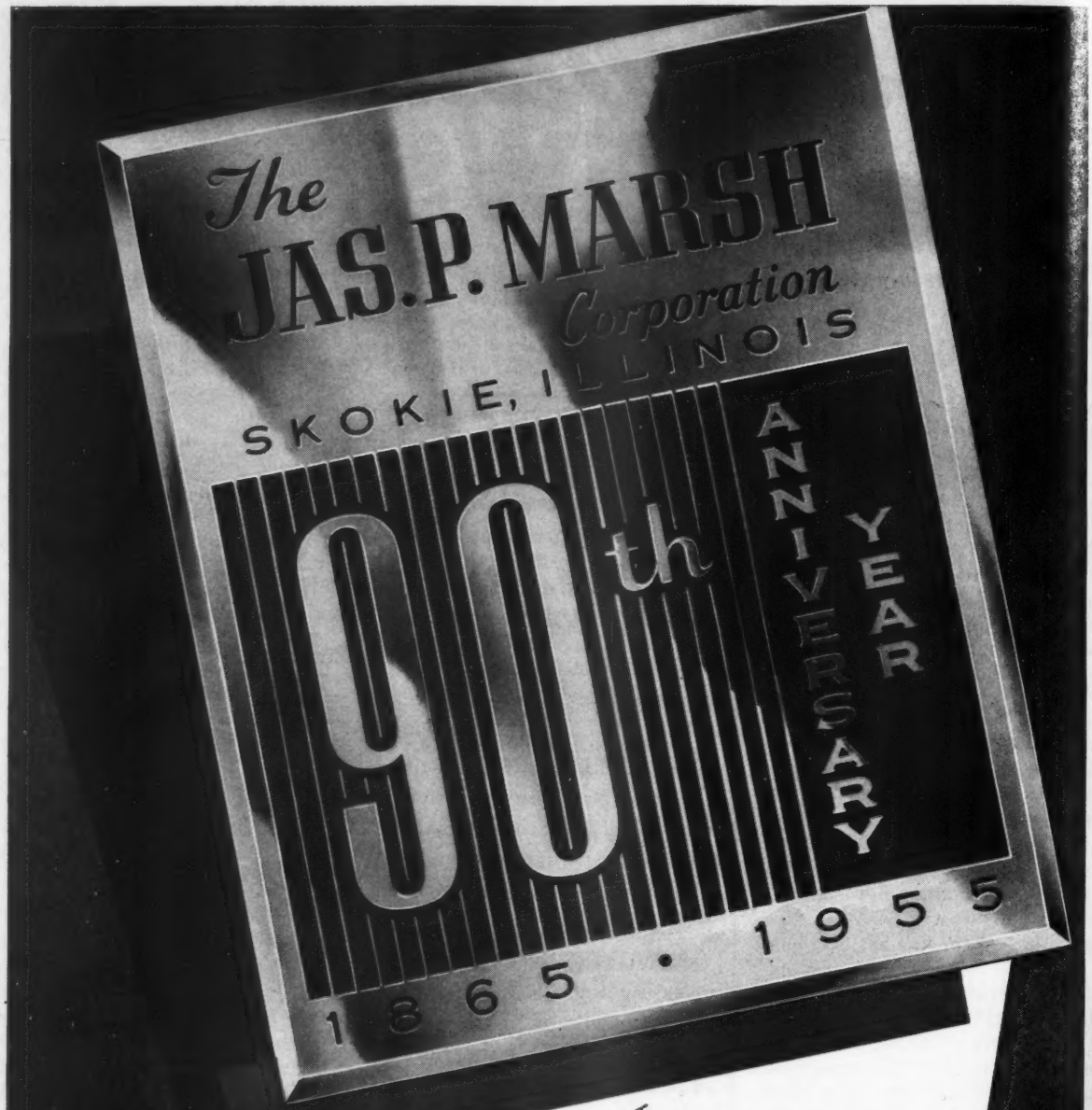
Phone FA—4-4511

Canada

Affairs in the natural gas industry have created the most recent news in the Canadian oil and gas industry. One exploration team has discovered gas in the Northwest Territory and the Trans-Canada pipeline project is showing signs of new life.

In the Northwest Territory, 250 miles beyond any previous gas production, a combine of American and Canadian interests have obtained a gas flow of 17,000,000 cubic feet per day. The test produced in a 20-foot section of the Devonian just above the granite at 2600 feet. It is the first test of a 3,000,000-acre block.

Plans for a revival of a curtailed Trans-Canada pipeline project have been announced. The line, according to present planning, will be built in three sections. For a time there was speculation that the Alberta-Winnipeg section, with a spur to the Twin Cities, would be the first built under the new planning. Latest indications, however, point to construction of a 370-mile segment from Ontario to Montreal. The gas supply would be American sold by Tennessee Gas Transmission Co. The second segment will probably be the Alberta-Winnipeg route, but that construction can not begin this year N. E. Tanner, Trans-Canada



It takes a lot of doing to maintain leadership in a field for 90 long years!

We thank our many friends for the opportunity they have provided us to fill their needs for

Pressure Gauges Dial Thermometers
Water Regulating Valves Solenoid Valves
Heating Specialties

MARSH INSTRUMENT CO. *Sales affiliate of Jas. P. Marsh Corp.*
Dept. J, Skokie, Ill.

"THE STANDARD OF ACCURACY"

"Our Cardwell Model D's are the best in the field"

* MODEL D IS RECOMMENDED WITH 4½-INCH DRILL PIPE FOR DRILLING TO 5,000 FEET

DRILLING

HOWARD PARKER COMPANY
SAN JACINTO BUILDING
PRestON 9127
HOUSTON 2, TEXAS

WORKOVERS

November 11, 1954

Mr. H. W. Cardwell
Cardwell Manufacturing Company, Inc.
P. O. Box 2001
Wichita 1, Kansas

Dear Mr. Cardwell:

For your information and your files, we are enclosing herewith, certain compiled data relative to the operation of our two Cardwell Model "D" Rigs, in which we feel you will be interested.

As you know, our first Model "D" was delivered on January 1, 1954, and in the past ten month period this rig has drilled, with 4½" drill pipe, an accumulated footage of 71,300 feet of hole, comprised of the following:

One	7,700 foot hole
* One	7,200 foot hole
Two	6,700 foot holes
Three	5,500 foot holes
Five	5,300 foot holes

The total number of trips involved in making this amount of footage was 164 with drill pipe and 25 with tubing.

Our second Model "D" Rig was delivered to us on May 10, 1954. This rig has drilled, with 4½" drill pipe, an accumulated footage of 35,000 feet of hole, comprised of the following:

One	8,992 foot hole
* One	8,445 foot hole
One	7,850 foot hole
One	6,000 foot hole

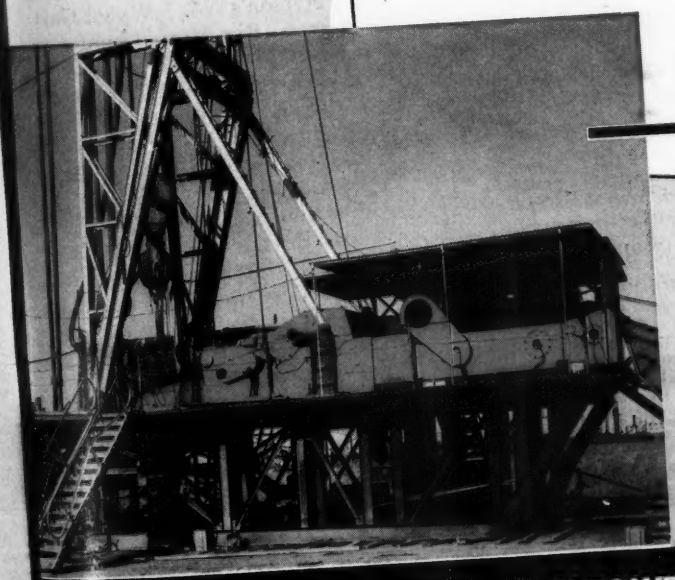
In the drilling of these four wells, two were side-tracked and directionally drilled. The total number of trips involved in the drilling of this 35,000 feet of hole was 120 with drill pipe and 8 with tubing.

We are impressed, not only by the smooth operation of these rigs, but doubly so by the small amount of down time due to repairs, which is practically negligible. Our men class them as the best in the field in their capacity.

Yours very truly,

HOWARD PARKER COMPANY

By Howard Parker



FEATURES OF THE CARDWELL MODEL D...

Furnished as a single- or double-drum rig, with one or two engines. The special Cardwell friction clutched chain transmission provides four instantly available forward speeds and one jaw clutched reverse to the drum and rotary table. Friction clutches inside the transmission case control the shifting of each forward speed and eliminates stopping to change speeds. Cardwell air friction clutches are used in drum ends, transmission, rotary drive and mud pump drive. Draw works is lightweight and compact, and moves with engines in place. Write or wire for full information, or see your nearest Cardwell representative.

CARDWELL
REG. U.S. TRADE MARK PAT. OFFICE
THIS TRADE-MARK INSURES HIGHEST QUALITY AT LOWEST PRICE

CARDWELL MFG. CO. INC.
P. O. Drawer 2001 — Long Distance Telephones 128 - 129 - 130
Cable Address: "ALL STEEL," Wichita — "CARDSTEEL," New York
Wichita, Kansas, U. S. A.

LEE J. LAIRD
2222 EAST SPRING ST
LONG BEACH 6, CALIFORNIA
PHONE 4-4681
After 5 P.M. & Holidays 4-1413

WORLD

president has told Albert oil men. The last link will be the controversial segment across the Canadian shield north of the Great Lakes.

The route was originally conceived as passing south of the Great Lakes through American territory. It was routed north at Canadian government insistence. Project supporters now seem irritated that the dominion government, having forced the extra expense of this route, have not been more flexible in aiding, finance-wise, in the added construction costs.

In the meantime Westcoast Natural Gas Transmission Co. is pushing its plans to begin construction of its 600-mile line from the Peace River to the Pacific Northwest. The company is seeking authority for a new capital structure. It is also seeking a dominion charter, a move that has led to some speculation that Westcoast might be casting eyes on the eastern Canadian market. Its officials have denied this. They emphasize their concentration on the line to Vancouver and the U. S. Northwest. If financing and legal knots can be untied, construction should begin this summer.

Montana

Oil has flowed to the pits at the rate of 40 barrels per hour at a new zone test in the Northwest Sumatra field, Rosebud County. McAlester Fuel's No. 5 NP is producing in the A sand. It is a twin to the No. 4 NP which has excellent shows in that zone, the first in the field, but was completed in the older zones. Most Northwest Sumatra production is in the B and C zones with one well in the Amsden dolomite. Casing has been set at total depth, 4450 feet.

On the initial tests of the Gas City unit discovery Shell Oil Co. has measured 16.7 barrels per hour at No. 33X-21, Dawson County. The test was run in the Red River. The well is also considered a discovery in the Mission Canyon and the Silurian.

El Paso Natural Gas Co. and George J. Greer Trustee have launched the second test in their extensive program for the Montana portion of the Powder River Basin. They have staked No. 1 NP to test the Shannon sandstone at 3100 feet in the Sunshine area of Custer County. It is 30 miles northeast of the region's discovery, made by Greer in the Pumpkin Creek area. The discovery flowed gas at the rate of 15,000,000 cubic feet per day.

Midway between Cabin Creek and Little Beaver on the Cedar Creek Anticline Shell Oil Co. has staked a Red River test. The No. 22X-36 will be taken to a total depth of approximately 9350 feet. It is two miles south of a dry hole drilled by Montana Dakota Utilities.

The first dry hole in the Charlson field, North Dakota's third largest field, has been abandoned by Hunt Oil Co. No details have been released but it is reliably reported that the No. 3 Isaacson swabbed for two days recovering 98 per cent water with an oil scum. It was in the southeast corner of the field which now numbers 30 wells.

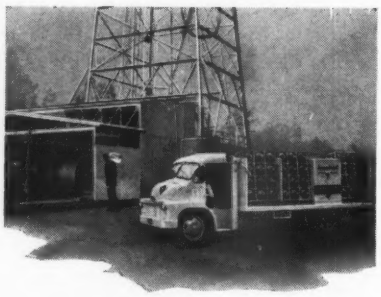
Two miles south of Capa field, Williams County, Amerada Petroleum Co. is preparing to drill No. 1 Wolff Estate. It is two miles northwest of the Hofflund field. There have been no dry holes drilled on the south or eastern side of the Capa field.

Negotiations for sale of low gravity crude produced from the Heath sand at the Fryburg and Belfield fields has been completed. Stanolind Oil Purchasing Co. is taking the sulphur free crude. It will eventually go to Queen City Oil and Refining Co. at Dickinson. Each field has one well producing in the Heath sand. They have been shut in for lack of market.

Wyoming

Two separate oil shows in Cretaceous age formations in the Big Horn Basin have had geologists and companies taking a closer look at those sands. Although unconfirmed it has been reliably reported that L. J. Peterson's No. 5 Wycol Govt., Manderson, Big Horn County, recovered oil at the rate of 1670 barrels per day from the Muddy sand. In Park County, to the westward, Mobil Producing has had a show in the Dakota, which lies just below the Muddy in the Wyoming geologic column. There has been very scattered production in the Cretaceous in this great oil basin, where a majority of the fields have the Cretaceous at the surface. The big production comes from the Permian, Pennsylvanian, Mississippian, represented by the Phosphoria, Tensleep and Madison, respectively.

The Peterson's Manderson production was established last year in the Tensleep. Mobil's show in the Dakota came in the second test of the Bear Cat Unit. The test is drilling ahead to its original objective, the Tensleep anticipated at



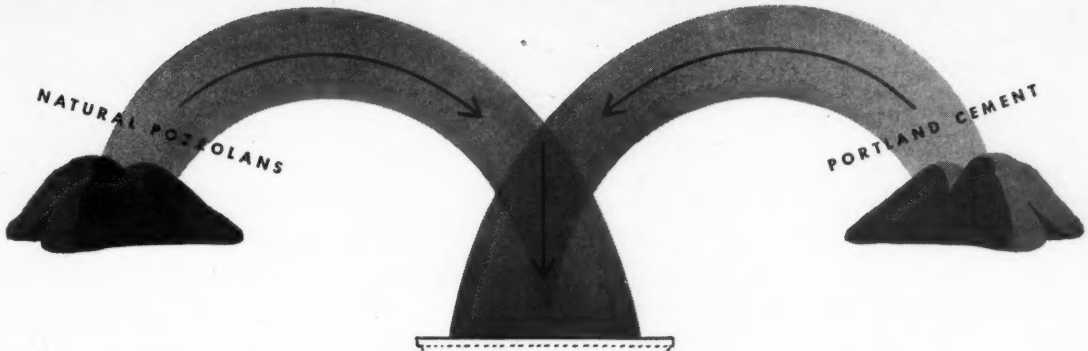
Fresh, pure drinking water...

now available for oil field and refining areas!

Give your men healthful, delicious drinking water. Arrowhead Spring Water and Puritas Drinking Water are delivered in 5-gallon bottles. Coolers loaned FREE to regular users. Order by telephone. Look under "Water" in your local directory.

Arrowhead SPRING WATER

PURITAS DRINKING WATER



HALLIBURTON'S POZMIX CEMENT

MOST DESIRABLE QUALITIES FOR IMPROVED CEMENTING at reduced cost...

Well over a million sacks of Pozmix have been used since it was introduced by Halliburton. Experience shows that it produces consistent results in improved cementing.

Pozmix is Halliburton's exclusive blend of Portland cement and a natural pozzolan. It has proved to have several desirable features: excellent perforation characteristics, low permeability, resistance to corrosion, good pumpability, and low cost.

The pozzolan combines with calcium hydroxide, a product of cement hydration, to form insoluble compounds with cementing properties that contribute to both strength and water tightness. It reduces the shattering effect of gun perforating, contributing to more water-free production.

There's no doubt that Pozmix is a major contribution to improved oil well cementing. So take advantage of its desirable qualities on your next job – get better cementing at reduced cost. Just phone your local or district Halliburton office. Or contact Halliburton Oil Well Cementing Company, Los Angeles, California.

HALLIBURTON

CEMENTING SERVICES

9800 feet.

Houston Oil Co. has recovered oil and cored additional saturation at a rank Natrona County wildcat. It has recovered black oil from the Tensleep at No. 1 Unit, Clark Ranch, Natrona County. The test interval was 4662-82 feet. A core 4682-95 recovered saturated sand. The test, a rank wildcat, was located on the Powder River Anticline, a surface feature in north central Natrona County. It is 21 miles almost straight north of the Grieve unit, whose discovery in the summer of 1954 focused new attention to the eastern Wind River Basin. The show at Powder River is midway between shut in production at Pine Mountain, to the southeast, and other shut in production at Powder River, to the northwest.

Evelyn and Powers have run casing at No. 1 Govt., Campbell County, to give the Minnelusa a thorough testing. Total depth is 10,712 feet. The test is a rank wildcat 11 miles west of Cretaceous age production in the prolific Clareton fields. The Minnelusa, a Tensleep equivalent, is a Pennsylvania age sand. Discovery of oil here in the deeper horizons would bear witness to the long-held assertion of Wyoming oil on the deep production possibilities toward the center of the Powder River Basin.

The Wyoming portion of the Denver Julesburg Basin is getting a good combing for oil, and with some good results. The first oil in Goshen County was discovered in January. More recently production has been indicated at the discovery's confirmation and casing has been run at a second wildcat. Chicago Corp., on whose acreage F. R. Anderson drilled the discovery at the Torrington airport, is preparing to sandfract No. 1 Van Mark after swabbing 21 barrels in 21 hours. The producing horizon is the J sand. Two miles to the north True and Brown and others have run casing to test No. 1 Smith. Sidewall cores, it is reported but not confirmed, recovered sandstone with good stain, odor and fluorescence.

Fifteen miles south of the Torrington production, Fred W. Shields has spudded No. 1 Mihan. Twenty-five miles to the northwest Gem Oil Co. is drilling at No. 2 Federal, one-quarter of a mile north of Eddie Fisher's No. 1 Govt., junked last summer at total depth of 3125 feet.

A water flood project in the Newcastle sandstone in the eastern portion of the Fiddler Creek field will have Trigood Oil Co. as operator and Texas Co. and Western Oil Fields as participants. The field is one of the older Weston County fields drilled right after World War II. A 160-acre flood in the Mush Creek field, made for experiment, gave encouraging results. Water will be taken from the Dakota about 200 feet below Newcastle.

Colorado

The Timpas, a new pay horizon in the Denver Julesburg Basin, has been identified as the productive zone at the S. D. Johnson discovery near Morrison, Jefferson County. Johnson has just released information on the No. 1 Pallaora. The Timpas top was 8949 feet, the producing zone was 8956-80 feet and it pumped 100 barrels oil per day. The discovery was made in a faulted zone along the mountain front west of Denver. In this same area Great Basins is drilling its No. 1 Pallaora.

Specializing in

HARD FACING OF PLUG VALVES AND REPAIRING OF OIL FIELD AND REFINERY VALVES

JOHNSON VALVE and SUPPLY CO.

LOS ANGELES

VENTURA **BAKERSFIELD**

Going in the HOLE?

USE

GEOLOGRAPH

Time is money on a drilling well! You save *both* with Geograph because its foot-by-foot drilling record helps do *A BETTER JOB IN LESS TIME!* That's why you always save when you log as you drill with Geograph.

GEOLOGRAPH

MECHANICAL WELL LOGGING SERVICE

P. O. BOX 1291 • OKLAHOMA CITY 1, OKLAHOMA

Farmington, New Mex. • Liberal, Kan. • Oklahoma City, Okla. • Bakersfield, Cal. Abilene, Houston, Odessa, Lubbock and Wichita Falls, Tex. • Shreveport, and Baton Rouge, La. • Casper, Wyo. • Glendive, Mont. • Sterling, Colo. Edmonton, Alberta

THE CONTRACTOR'S DELIGHT

WILSON QUICK DISCONNECT UNIVERSAL JOINT DRIVE COMPOUND

It's a delight to move, no chains to break, no belts to handle, all packages unitized into legal skid mounted packages with quick locating devices.

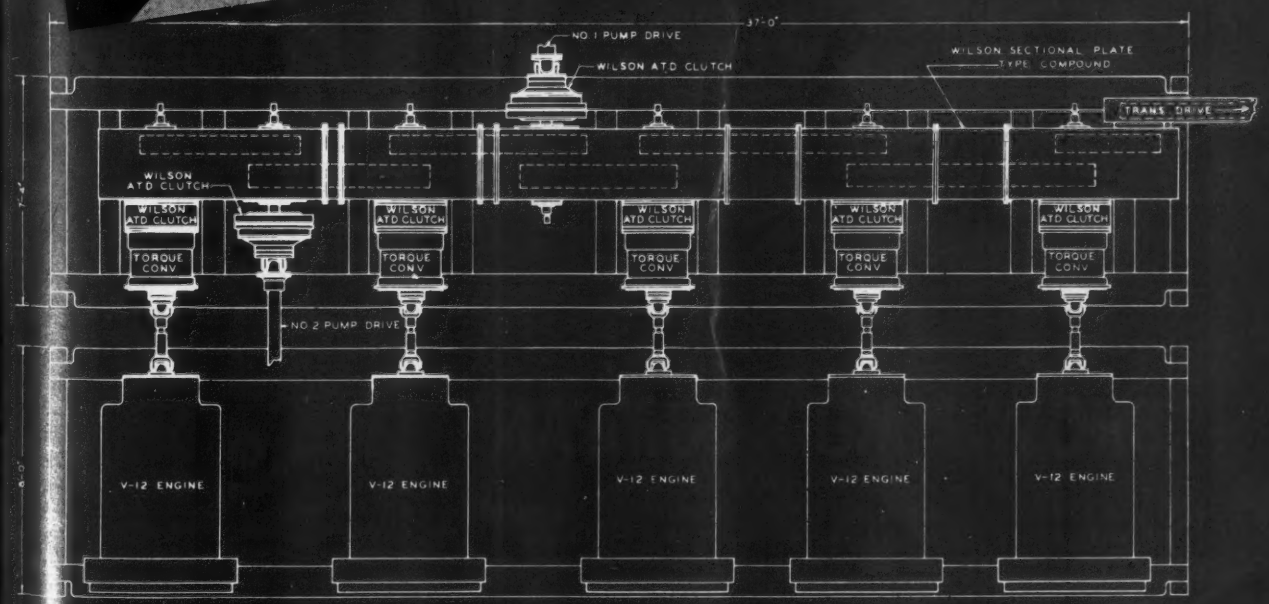
It's a delight to service and maintain. Plenty of space to work in. Engines can be completely removed and replaced without touching the converter, the engine clutch, or compound. No misalignment worries.

It's a delight to operate with remote control power selection for hoists or pumps through use of ATD clutches.

POWER RIG — SERVICE • • • • SALES — EQUIPMENT

POWER RIG & EQUIPMENT CO., INC.

3001 Cherry Ave. • Long Beach 7, Calif.
Phone 407-935 or ZEnith 3851
EXCLUSIVE WEST COAST DISTRIBUTOR OF WILSON MANUFACTURING CO., INC.
Bakersfield Office: 3910 Pierce Rd.—Phone FAirview 5-9436
Ventura Office: 1254 No. Ventura Ave.—Phone Miller 39046



Field Development

Hancock Completes New Airport Producer

In the Long Beach Airport field, a quarter-mile northeast of the main Long Beach producing area, Hancock Oil Company has made good with another well. Its Signal No. 56 near 33rd and Walnut streets was finaled at 7960 feet for a current output of 861 barrels of oil a day. Production in the airport sector is deep zone sands equivalent to those lying in the Long Beach field. At 29th street and Cherry avenue, drilling has been suspended at 7822 feet with Paulin Oil Company's No. 3 well on Section 20-4s-1w. Termo Company's recent completion, L.B. No. 5 at 33rd and Cherry and on Section 19-4s-12w, is putting out 850 barrels of oil and 2,500,000 cubic feet of gas daily from 7860 feet. There are a dozen wells in the field drilling toward objective depths.

Huntington Beach Townlot Area Busy

There is no evident diminution of drilling in the Huntington Beach townlot area. Hedges Oil Company has on the way a program of at least 10 wells and recently has completed two. Puckett No. 1 is in from 3895 feet for 30 barrels of oil, and Gardiner No. 1 has gone on production at 3910 feet for 50 barrels daily. Operators active in the sector, in addition to Hedges, include B. H. Sheldon, E. A. Shamlin, Emmett J. Raehn, A. M. Roath, Neaves Petroleum Developments, W. E. Nicolai, John Paul Jones, Apex Pet. Corp., Atlantic Oil Co., Milton Barratt & Ernie Bysshe, Battaglia-Wolfson & Barnes, Chinook Petroleum Operators, Ltd., Ted H. Christenson and Jack B. Crawford.

San Bernardino Activity Noted

Field operations in San Bernardino County areas are showing a disposition to increase. Adelanto Development Corporation is preparing to drill its Adelanto No. G-2 wildcat well on Section 14-8n-5w in the Hellndale area. Scott Drilling Company will do the work on contract. The company's No. 1 wildcat on Section 12-8n-6w in the Adelanto area is inactive at 4120 feet, but it may be deepened to somewhere around 7000 feet. In the Chino Hills sector, James Michelin, Operator, is drilling Abacherli No. 1 test on Section 12-3s-8w. South of Harpers Lake, G. A. Grober & Associates has suspended drilling at 1870 feet with No. 2 wildcat on Section 1-10n-5w. Drilling is proceeding well below 3800 feet with Alton Oil & Development Company's Handley No. 1 explorer on Section 23-4n-7w in the Phelan area.

Elizabeth Canyon Wildcatting Area

Three wildcat wells are at various operation stages in the Elizabeth Lake Canyon area of Los Angeles County. They are Dafor Development Company's Lyons Ranch No. 1 on Section 5-5n-16w, G. & E. Oil Company's No. 1 and Kenneth Glenn's Lyons No. 1 on Section 8-5n-16w. Union Oil Company is understood to hold considerable ground in the general area.

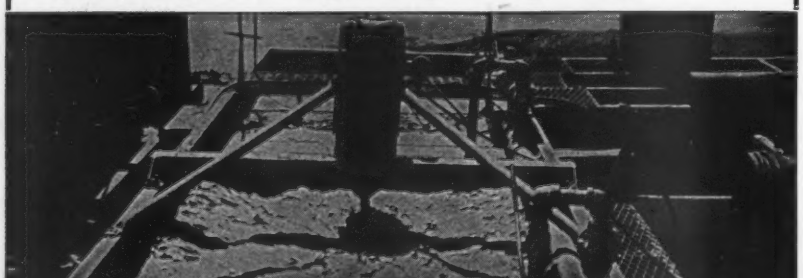
JEL-OIL

JEL-OIL OIL MUDS PROVIDE

A completion mud which permits no water to enter the producing formation.

Exceptionally low filter loss under all drilling conditions.

Proper easily controlled gel strength and good suspension.



BROWN MUD COMPANY

MAGCOBAR DEALER

DIXON RIO VISTA 4-0813 | VENTURA Miller 3-8168 | LOS ANGELES WEbster 3-5618 | BAKERSFIELD FAirview 2-6410

LET REPUBLIC SUPPLY YOUR NEEDS!

He said: "My whole crew's in the dog house. I need some drill pipe and casing, *quick*, or I'll be in the hole myself!"

We said: "What size pipe and where's the rig—we'll have you standing cemented before supper!"

Moral: To keep rotating—so you can go "fishing" on your own time—*let Republic Supply your needs!* For all Drilling and Production Equipment including Drill Pipe, Casing, and Tubing—call Republic first.

THE republic supply COMPANY OF CALIFORNIA

Main offices in Los Angeles & San Leandro. Phones—Los Angeles: RAymond 3-2511, PArkview 8-7151; San Leandro: LOckhaven 2-0414, Enterprise 1-1060
Pipe, valves and fittings • abrasives • shop supplies and tools • rigging materials • mechanical rubber goods • machinery • oil field supplies

An independently owned and operated company serving Western Industry

Why

do most users

prefer and buy the genuine

RIGID

PIPE WRENCH?

It's easiest to work with... perfect balance...comfort-grip I-beam handle...handy pipe scale on hookjaw...easy-spinning adjusting nut... clean grip on pipe, no slip or lock.

It lasts longer... first guaranteed housing, won't break or bind . . . ever. Every wrench individually tested before shipment . . . and millions of them in use. Sizes 6" to 60"—end pattern, 6" to 36".

For the most for your money, buy RIGID . . . Your local Supply House stocks them for you, delivers them fast!

THE RIDGE TOOL COMPANY • ELYRIA, OHIO, U.S.A.

RIGID

Work-Saver Pipe Tools

Costa Mesa Wildcat Digs

One of the most interesting wildcat ventures in the state has just been set in motion by Richfield Oil Corporation at Costa Mesa, Orange County. Known as Costa Mesa No. 1, the well is located near the intersection of Meyers and Banning streets on Section 9-6s-10w. East of Kraemer field in the Travis area, Shell Oil Company has started the drill with its Dominguez Yorba Unit No. 1 explorer on Section 30-3s-8w.

Montebello Well Working

Continuing its development in the Montebello field, Standard Oil Company is drilling in the shallower formations with its Baldwin Temple No. 6 well on Section 6-2s-11w in the Montebello field, discovered by Standard in 1892.

Mountain View Wildcat Staked

Southern California Petroleum Corporation, whose oil interests extend throughout the world, is preparing to put down its Easton No. 87-23 wildcat well on Section 23-30s-28e in the Mountain View area of Kern County. The leases total approximately 410 acres, which company geologists conclude lie in a fault block hitherto untested except for a Hogan Petroleum Company Wible venture. The Hogan project was drilled in 1939 in the extreme southwest corner of the section and in so doing was credited with a number of oil and gas shows. The SCPC test is expected to run structurally higher in the same fault block. It was pointed out that the producing sector to the east has a controlling fault running northwest-southeast. The new test will be taken down at least 6000 feet.

McKittrick Test Ready to Drill

About to spud is Rothschild Oili Company's Bowcher No. 1 exploratory well on Section 28-30s-22e, one mile south of McKittrick townsite in Kern County. Rothschild, in addition to its production activities, is identified with refining and marketing operations.

When Pulling Liners...

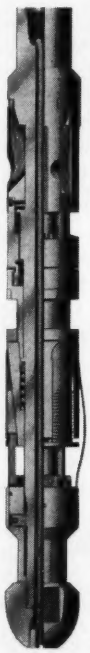
Save Hundreds of Dollars in Service Charges

Full Circle Releasing Bowen Spear

Bowen Safety Joint

Bowen Bumper Sub

Bowen Stop Sub



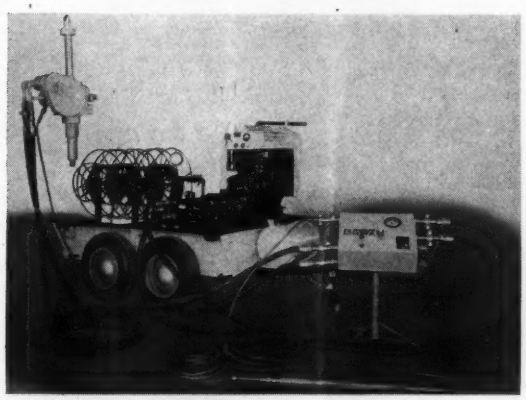
Bowen Internal Cutter

Bowen Extension Sub

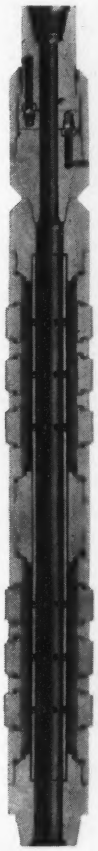
ALL THESE BOWEN TOOLS ARE AVAILABLE WITH

one serviceman

Bowen Pressure Booster

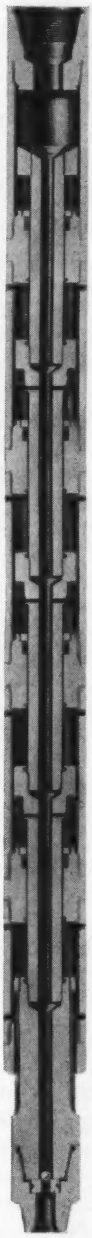


Bowen Powered Swivel



Anchor Section

Bowen-Wilson Pulling Tool



Pulling Section

Bowen-Wilson Pulling Tool

SR BOWEN CO

MAIN OFFICE AND PLANT:
11008 SOUTH NORWALK BOULEVARD
SANTA FE SPRINGS, CALIFORNIA
EXPORT OFFICE:
30 ROCKEFELLER PLAZA
NEW YORK CITY, NEW YORK
EXPORT REPRESENTATIVE: VAL. R. WITTICH, JR.

Shafter Well Moving Ahead

On Section 18-28s-25e in Shafter territory in Kern County, Tide Water Associated Oil Company is under way with its Clark No. 57-10 wildcat test, which is a followup project to the firm's Loepp No. 63-18 discovery on the section. The find was completed a few days before Christmas for an initial output of 2,344,0000 cubic feet of gas a day through a 16/64-inch orifice. It was taken to 4325 feet and then plugged back to 4315 feet for final tests. Opened were Etchegoin sands.

Rheem Valley Wildcats Start

In the earlier stages are two new and interesting San Joaquin Valley wildcat wells undertaken by Richard S. Rheem as operator. One is on Section 6-29s-29e in the Kern Bluff sector and known as Carabino No. 1. It lies no great distance from where General Petroleum some years ago wildcatted unsuccessfully wiith a couple of wells. The second test is designated as Moncure No. 1 and is on Section 36-28s-28e or one-half mile from production in the Sharktooth field, so named because of fossils abounding in the area.

Over in the Edison area, Rheem has redrilled and developed production with Ross-Kirschenmann No. 54-8 well on Section 8-30s-29e, which in past months was abandoned. The project originally was carried to 5943 feet and on the redrill went to 5937 feet for a flow of 100 barrels of 42.8 gravity oil and 170,000 cubic feet of gas a day. Open are the intervals of 5680-5710 feet and 5778-5788 feet in Pyramid Hills and Vedder sands. B J & M Drilling Company was the contract driller.

Ducor Wildcat Goes Off Board

Abandoned at a depth unreported is the word on C. H. Olsson's Mueller No. 2 wildcat on Section 15-23s-27e, five miles south of the Deer Creek field in Tulare County. A prior test was abandoned a couple of months ago at 1554 feet. Northwest of Deer Creek, Alvin O. Preszler's exploratory hole on Section 1-22s-22e is idle at 1924 feet.

REAL EVIDENCE
B and W LATCH-ON CENTRALIZER
B and W MULTI-FLEX SCRATCHER
B and W Scratchers remove mud cake, and here is how to prove it
1. Run B and W Scratchers on your casing.
2. Move the casing after it reaches bottom.
3. Circulate until returns from bottom reach the shaker screen.
B and W Nu-Coil Scratcher
B and W Rotating Scratcher
THERE IT IS! . .
You will see all the evidence you need to convince you that B and W Scratchers and Centralizers have conditioned the hole . .
For a GOOD CEMENT JOB

B and W Inc.
Well Completion Specialists
GULF COAST
Box 5266
Houston 12, Texas
Phone WA-3-6603
WEST COAST
Box 3751
Los Angeles 54, Calif.
Phone DA-4-1106

Playa Del Rey Project Redrills

Edwin W. Pauley and Donald Frankel are redrilling for the second time their Hughes No. 1 test on Section 22-2s-15w at Playa Del Rey in Los Angeles County. The first time down the project was carried to 8725 feet and on the first redrill to 7972 feet. The present effort at last reports was making hole at 4500 feet. More than 2000 acres in the area are under lease. Bolsa Chica Oil Corporation wildcatted in the area five years ago. For a time this test of yesteryear looked like it had something good, but it flattened out when productive life failed to endure.

Tulare Lake Basin Wildcat Gets Going

Moriqui Exploration has put in motion its interesting Continental-Salyer Farms No. 1 wildcat venture in the center of the southeast quarter of Section 17-22s-20e, Kings County. The well is in the Tulare Lake Basin sector on a spread of 2000 acres. Scheduled for testing are Upper Pliocene sands in the First and Second Mya zones in going to an objective depth of some 4000 feet. These sands perform in excellent fashion in the Trico gas field about 15 miles to the southwest. Geology was worked out by E. B. Noble and Associates. Engineering will be handled by Easton & Sacre. Franco Western Oil Company's latest well to begin in the Pyramid Hills area is Norris-Drilexco-Westslope No. 57-20 on Section 20-24s-18e. It is making satisfactory progress with the drill above target depth.

Mount Poso Test Cored Gray Vedder

Having cored gray Vedder from 1285 feet to bottom at 1307 feet, WA-ME-CO Drilling Company has pulled out of its Glide-Magee No. 1 test on Section 15-27s-28e at Mount Poso.

In the Cymric area, Wilrich Development Company has rigged up the old Richardson No. 6 project on Section 18-29s-21e to deepen from a present depth of 1250 feet to the Carneros.

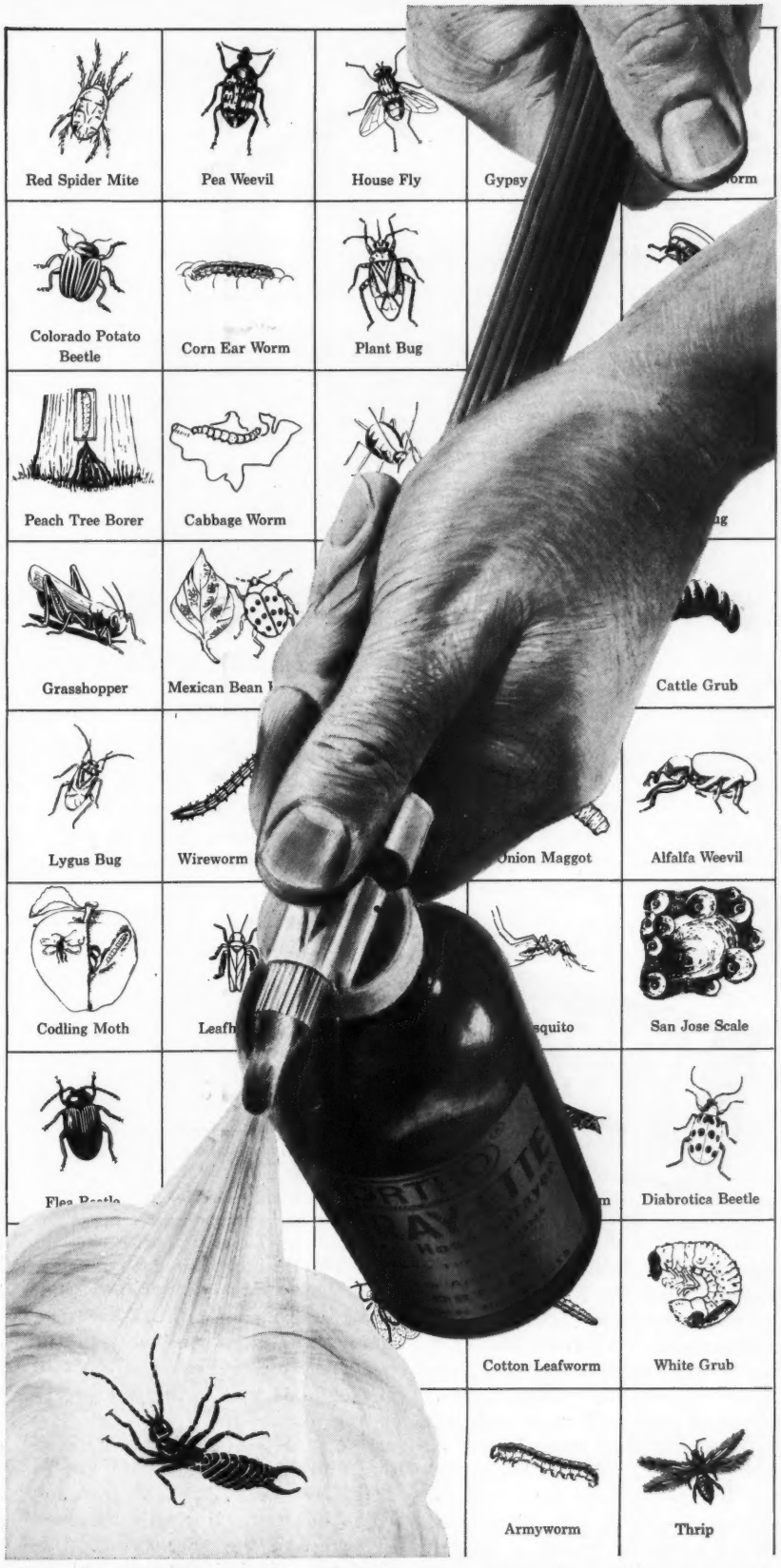
There's not enough food for you and the bugs

As any backyard gardener knows, you have a fight on your hands from the moment you turn over your first spadeful of earth. At every step, fungus growths, weeds, and insects that chew, insects that suck are waiting to destroy your lawns, trees, plants, flowers. It is a disheartening struggle for Greenthumbers . . . a round-the-clock fight for commercial farmers.

Fortunately, there's a growing list of weapons we now can wield in the battle against bugs. Some of the most effective have been developed in the laboratories of California Spray-Chemical Corporation, a Standard Oil Company of California subsidiary. In 1907, we brought out the first basic lead arsenate to stop the codling moth, a rampaging fruit crop destroyer; later, the invention of new-type summer and dormant oil sprays safely checked scale and other insects.

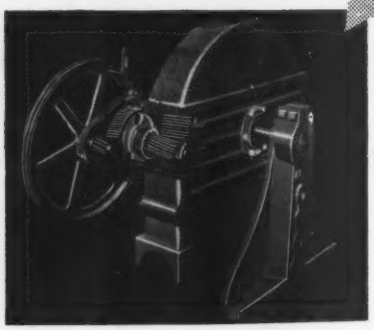
Other Standard research achievements have been chemicals to kill aphis, mites, thrips, and similar sucking insects . . . dusts to destroy fungus diseases like rust, blight, mildew...sprays and dusts custom-made to knock out such public enemies as the devastating grasshopper, boll weevil, hornworm. Other pest-killers boost milk production from our dairy herds, help beef cattle fatten faster.

One good reason you live in the world's best-fed nation is because insect invaders have been held back on our farms, ranches, and orchards, thanks in part to Standard's constant hunt for new ways to make petroleum do more things for you.



STANDARD OIL COMPANY OF CALIFORNIA *plans ahead to serve you better*

JENSEN'S Double Gear Reduction



... gives you SLOW pumping speeds with HIGH speed prime movers

The large diameter of the second-stage main gear in the JENSEN Double Reduction reduces tooth pressure to a minimum. Its design lends a flexibility of gear ratios found only in JENSEN JACKS. Matches pumping speed to well conditions easily, economically. Ask for ALL the facts on JENSEN JACKS.

Stocked by:

ROBERT S. MOORE SUPPLY CO.
2852 Cherry Avenue
Long Beach 6, Calif. Ph. LB 4-3058

LOVELADY SUPPLY CO.
3301 Cherry Avenue
Long Beach 7, Calif. Ph. LB 40-5429

PETROLEUM SUPPLY CO., INC.
Fresno Highway
Bakersfield, Calif. Ph. FAirview 2-2413

JENSEN JACKS

JENSEN BROS. MFG. CO., INC.
Coffeyville, Kansas, U.S.A.

Export Office:
50 Church St., New York City

Reserve Oil Adds Jewett Sand Well

After exploring to 11,687 feet with its Reserve-E. W. Pauley No. 12-34 test in the Tejon Ranch area, Reserve Oil and Gas Company has completed the well at a redrilled depth of 7324 feet as a Jewett oil sand producer. The well, on Section 15-11n-19w and until success attained by No. 12-34, three-quarters of a mile northeast of Jewett production, is the deepest hole ever put down by Reserve and the second deepest ever drilled on the historic Tejon Ranch. Standard went lower with a test to 13,239 feet, about two miles southwest of the Reserve project. Yield last reported of No. 12-34 was at the rate of 550 barrels of 35 gravity oil daily by way of a 15/64-inch bean. Production finds its source in intervals of 7190-7212 feet, 7220-7245 feet and 7255-7267 feet. Originally designed as a test of the Olcese zone, this sand was found pinched out and the well then was carried on down for a look at the Vedder and Eocene sands. Failing to expose showings in the lower formations, the well next was plugged back for a fresh start from 4750 feet and whipstocked down structure to escape the shackles of the Jewett gas cap. Incidentally, the Jewett is popularly known as the JV sand.

James Slough Wildcat Drills

The Texas Company's Continental-KCL No. 2 explorer on Section 5-31s-26e in the James Slough area of Kern County is drilling at a relatively shallow level. Location is about 750 feet north of the company's No. 1 wildcat, which was abandoned three months ago at 9035 feet. It is also one and one-half miles southeast of the Ten Section field.

Polvadero Wells Nice Producers

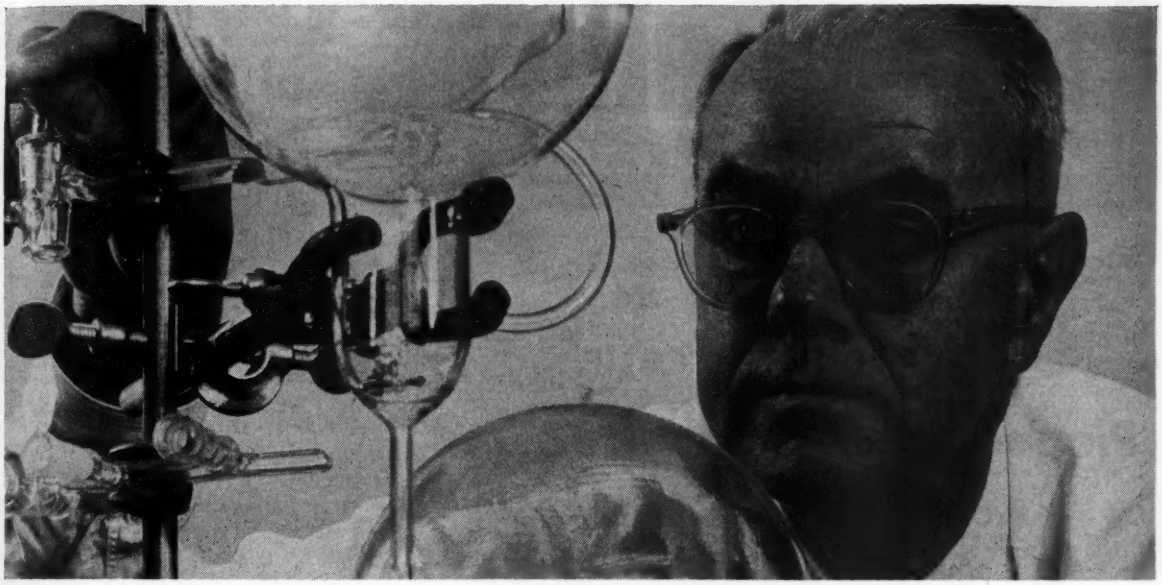
Union Oil's Los Nietos Company as operator has completed two good wells in the Polvadero area of Fresno County. Bourdieu No. 75-1 on Section 1-21s-16e is producing 700 barrels of oil and 280,000 cubic feet of gas from 11,044 feet, and Sanger No. 44-1 on the same section, 875 barrels of oil and 650,000 cubic feet of gas a day from 10,840 feet. The former was a San Joaquin Drilling Company contract job, and the latter, a K. L. Kellogg Drilling Company assignment. In the Gatos Creek area of Fresno County, George W. Wake's Marion No. 1 wildcat on Section 21-19s-13e is reported temporarily idle at 1447 feet, after running electric log.

Midway-Sunset Test Scheduled for Depth

Oceanic Oil Company as this is jotted down is not much above 9000 feet with its CWOD No. D-3-7 deep test on Section 7-32s-23e near Fellows in the Midway-Sunset field. The project may explore as deep as 15,000 feet for a look at what the Eocene formation may care to show at this location. Location is on a lease block of some 3200 acres. In the vicinity of the Taft Community Hospital, Standard's No. 57-13C on Section 13-32s-23e is drilling at 8800 feet.

Maynard Reynolds

or what model gasoline for your 1958 model car?



"You've probably heard it said that competition in an industry brings the customers better products ahead of time.

"If you ever doubted it, you should have been looking over my shoulder lately.

"I'm a research chemist for Union Oil. That's why, back in 1951—when Union was selling all the gasoline it could refine—the boss called me in. He said management wanted to know what

kind of gasolines we'd have to be able to market in 1958 to satisfy cars then.

"After studying trends in engine design, we set to work on our '58 model gasolines. We pushed octane right to the ceiling for the highest practical power and knock-rating. But we wanted more than power.

"We wanted gasoline that would start a cold engine in a wink and let you drive away without a warm-up. We took our test cars into snow country and worked at 20-below.

"We also wanted gasoline that wouldn't vaporlock. So we drove down into the desert and tested blends till we had one that would perform in an oven.

"Well, when we had all the vital statistics we showed 'em to the men on the 12th floor. They took a long look at the facts, okayed $70,000,000 for a refinery expansion program.

"As a result, we were able to introduce our 1958 model premium and regular gasolines in 1955—three years ahead of schedule. *And man, are the customers taking them away from us!*"

* * * *

Maynard's true story points up again the big advantage of being a customer under America's free enterprise system.

Because we compete with every other oil company for your business, we con-

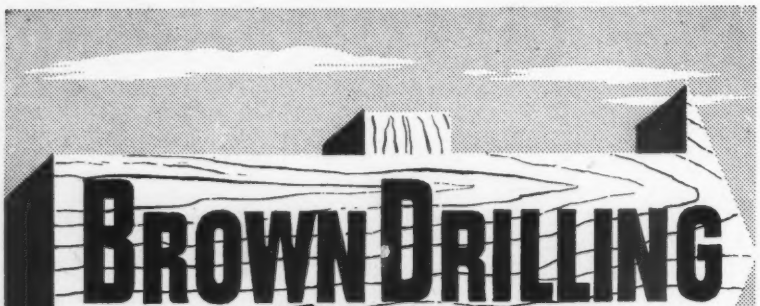
stantly *have* to introduce improved products to please you.

But if—as in Russia today—government had a monopoly on all business, there would be no incentive to bring you anything better.

YOUR COMMENTS ARE INVITED. *Write: The President, Union Oil Company, Union Oil Building, Los Angeles 17, California.*

Union Oil Company OF CALIFORNIA

MANUFACTURERS OF ROYAL TRITON, THE AMAZING PURPLE MOTOR OIL



LONG BEACH, CALIF.

Pioneers in Portable Power

P. O. Box 7217, Long Beach 7, Calif.

Telephone: Long Beach 48549

Guijarral Hills Test Drills Ahead

In the Guijarral Hills east of Coalinga in Fresno County, Union Oil Company's wildcat project on Section 14-20s-16e is making hole below 3500 feet. Union shares interest in the play with Helm Company, Hans and Robert Sumpf and others. Name of the test well is Helm Co., Hans and Robert Sumpf-Pleasant Valley No. 8-14. It is slightly more than a half-mile northeast of a production failure put down by Standard on the Guijarral Service Company lease.

Canfield Ranch Wildcat Digging

Near the Canfield Ranch field and southwest of Gosford, Hancock Oil's KCL No. 44-26 prospective job on Section 26-30s-26e continues to drill on down under 7800 feet in a scheduled test of the Stevens oil sand zone, anticipated around 8500 feet. The drill site is less than two miles north of the Taft-Bakersfield highway and northwest of the Old River field by one and one-half mile. In the Semitropic area, nine miles west of Wasco, Humble Oil's Arthur A. Conn et al No. 1 wildcat is making hole ahead beneath 9000 feet. Humble holds a substantial block of leases in the area on property of Anglo California National Bank of San Francisco, West Coast Bond & Mortgage Company, Homesteaders Life Insurance Company and many others. The block was put together by George L. Bradford and assigned to Humble to carry forward the present play.

West Coalinga Test Abandoned

W. W. Holmes & Associates' No. 62-36 extension test of the Coalinga field, which has been idle since last February 24 at 6027 feet, has finally been abandoned. It was on Section 36-19s-14e.

Bishop Oil to Hunt Uranium

Bishop Oil Company has plans drawn for some shallow uranium exploratory drilling in the Marble Canyon area of Arizona. It has been pointed out that geologic work required in petroleum development is similar to that incorporated in the search for uranium. Vice President Louis J. Brunel told stockholders that Bishop feels fully qualified to explore for uranium as well as oil.

Northern Gas Tests Working

The Texas Company is drilling at an intermediate stage with its Georgiana Unit No. 2 test on Section 10-4n-4e in the Georgiana Slough sector in the vicinity of the Rio Vista gas field. It is an operating sequel to the company's Georgiana No. 1 test, which came in last October for a flow of 1,700,000 cubic feet of gas a day from the interval of 3507-3517 feet. The current endeavor will be taken down by Thomas P. Pike Drilling Company to around 4000 feet. Christopher Oil Company is also seeking new gas in the general Rio Vista area. This operator is drilling a couple of thousand feet down with its Shafer-Loudon No. 4 well on Section 22-3n-3e on a lease encompassing 550 acres. Christopher shares interest in the venture with Len Owens and Charles F. Brown. In the Natomis area, outcome of King Petroleum Company's King-Monterey-Ferriera No. 1 on Section 6-9n-4e was disappointing as little showed and the well came to a final rest at 5540 feet. Southwest of Sacramento, General Petroleum's Glide Court No. 65-10 gas wildcat in the Yolo Bypass area is drilling below 8500 feet. The project is set up to take in about 15,000 feet from a drill site on Section 10-7n-3e. On Section 3-6n-3e in the Miller-Glide area, Standard Oil is preparing to drill its F. T. Swan et al No. 1 test. On a 2240-acre farmout from Western Gulf Oil Company in the Vacaville area of Solano County, Campbell, Shell & Collins is drilling under 1500 feet with its Western Gulf No. 1 gas explorer, with Newton Drilling Company in charge. The drill site is about 40 miles west and a little south of Sacramento, and nine miles North of the Potrero gas field. Location is in Section 11-5n-1w.

Idaho Wildcatting On Drilling Agenda

The Double O Timber and Mining group of companies, including the Gold Zone and Rosegold, have leases on approximately 300 acres of prospective oil land ground in southeastern Idaho, according to an official announcement made in San Francisco. Ralph Arnold, geologist, was said to have reported favorably on the property, which lies in Cache Valley. Drilling of the first well is expected to start almost immediately. Some years ago wildcatting was conducted in the general area to only shallow levels. These wells at that time were credited with showing gas.

Hondo Creek Test Ready for Drilling

Near Hondo Creek and no great distance from Point Arguello in Santa Barbara County, M J M & M Oil Company of San Francisco is ready to spin rotary with its Spanne No. 2 wildcat test on Section 9-6n-35w. Location is on a 4200-acre lease block at the south edge of Camp Cooke Military Reservation and a little more than a mile north of Stansbury-Webb and George J. Greer, Trustee, No. 1, which was given up about a year ago at 5560 feet. The present effort is designed to test a number of formations down to an approximate depth of 4800 feet.

Another important test well in the primary stages in Santa Barbara County is Thomas J. Evans' wildcat in the Carpinteria area. It will explore to 4500 feet under contract arrangements with Fowler Drilling Company.

Moorpark Wildcat Barren and Gray

Having drilled and cored to 3979 feet with little encouragement, Intex Oil Company's McCrea No. 1 exploratory hole on Section 27-2n-19w in the Moorpark sector of Ventura County has been abandoned at 3979 feet. The project will be converted to a water well.

Stanislaus Test Drilling

At Crows Landing about five miles northwest of Modesto, Lawrence A. Thomson, Jr., is drilling near 1000 feet with his Thomson-Barbour No. 1 test on Section 6-6s-9e, Stanislaus County.

Somis Venture Suspends Work

Two miles south of the town of Somis in Ventura County, the E. A. Parkford and Bolsa Chica Oil Corporation exploratory venture has been suspended at 7785 feet, after running water witch. Designated as Fasshauer No. 2 and located on Section 5-2n-20w, the well was a followup to a test drilled some 300 feet to the north by Parkford and Sunray last year. It was reasoned that the original wildcat would have been a producer if mechanical troubles had not interfered and that success would not elude a second test. The play was on a lease of 1970 acres, north of the Berylwood Investment Company property. On Section 19-2n-20w, Humble is drilling its No. D-2 on the investment concern's property at 5800 feet.

DUAL-FUEL ENGINES

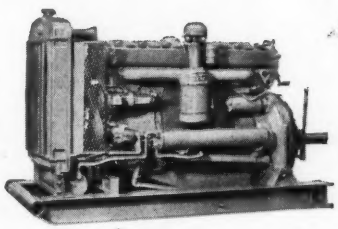
Natural Gas or Diesel Fuel

NO MECHANICAL CHANGES NECESSARY

MURPHY DIESEL

Heavy duty power

for the oil fields



ALL TYPES OIL FIELD ENGINES REBUILT AND REPAIRED

Industrial Engine Service
5315 Valley Blvd.
Los Angeles
Phone CApitol 6176

Glenn Rose Engine Service
502 South Real Road
Bakersfield
Phone FAirview 3-6201

Sespe Field Drill Scene

H. A. Ivers' Star No. 11 well on Section 1-4n-20w in the Sespe field has reached 700 feet. The well was spudded in last February 15 and is reported as being drilled intermittently.

Fillmore Test Drilling Ahead

South of the town of Fillmore, Richfield Oil's Homburg No. 1 wildcat on Section 31-4n-19w keeps drilling below 2000 feet. Contractor is Rocky Mountain Drilling Company. On Section 27-4n-20w, Standard's Hardison Ranch No. 2-2 is drilling near 14,000 feet. The company's Sespe Creek Community No. 1 on Section 24-4n-20w is digging beneath 8800 feet.

Cherry Creek Wildcat Digs

Ohio Oil Company has a big rig working at a primary stage with its interesting IMR-Government No. 1 wildcat well near Cherry Creek in rugged territory and more than two miles from the Ventura - Maricopa highway. The rig previously was used in putting down the world's deepest hole in the Paloma field, but at this Ventura County location probably will not be called upon to dig beyond 8000 feet on what is delineated as the Ortega anticline.

Ventura Avenue Deep Test Quits

Following a series of exhaustive tests, Lloyd Corporation's W.S. No. 1 well on Section 20-3n-22w in the Ventura Avenue area has suspended drilling. The project went to 16,492 feet and has plug at 12,930 feet.

Personalities IN THE NEWS

Public Relations Changes Announced by Shell

A series of transfers in Shell Oil Company's public relations department recently established Los Angeles as the headquarters for West Coast activities, according to S. F. Bowlby, vice president.

J. H. Sembower

The moves, intended to give greater effectiveness to the company's public relations programs, brings J. H. Sembower, West Coast public relations manager, from San Francisco to Los Angeles. P. W. Harvey, who has been the Los Angeles representative for the past year, has been transferred to San Francisco.

T. F. Scoggins has been named to replace Harvey in Los Angeles. Scoggins has been the company's public relations representative in New Orleans during the past three years. A fourth move sent W. L. Gordon from San Francisco to a newly created Northwest public relations post in Seattle.

Sembower, who heads the West Coast public relations activities for Shell, is a Pennsylvanian by birth and holds a University of North Carolina law degree. In 1938 he joined Shell as a salesman. Subsequently, Sembower worked in the company's personnel department and was manager of the New York public relations department in 1941.

Following a four-year tour in the U. S. Navy, Sembower became head of Shell's personnel and industrial relations functions in the Southwest. In April 1948, Sembower went on special assignment as the director of the International Road Federation. He first came to the West Coast in 1949 to head the company's public relations activities.

Chiksan Holds Sales Conference

The Sales Department of Chiksan Company held a three-day sales conference at the main office and plant at Brea, California, April 18 through 20, under the direction of G. R. Winder, Vice-President and General Sales Manager. Thirty Chiksan sales personnel were present. Canada, the Atlantic seaboard, the Midwest and Southwest were represented, with two members of the Weco Division in Houston present.

Chiksan's newest products were unveiled and demonstrated. These included the mechanized dock hose, a completely integrated self-propelled 8" aluminum hose designed to eliminate manhandling of rubber hoses in marine petroleum loading. The mechanized dock hose utilizes an hydraulic system powered by an electric motor. Another Chiksan product shown to many for the first time was the Intelli-Giant—a spectacular hydraulic monitor operated by water pressure

Gathered at Chiksan Company's home office in Brea, California for a concentrated three-day Sales Conference, April 18-20 were these men of the Chiksan Sales force. Front row, left to right: Jack Runnells, Chiksan of Canada, Edmonton; Joe Schlarb, Southern California; L. J. Smith, Eastern Regional Sales Manager, Newark; G. R. Winder, Vice-President and General Sales Manager, Brea; R. T. Jones, Western Regional Sales Manager, Brea; Bill Clark, Chicago; C. E. Thomas and Jack Powers, Newark. Second row: Frank Wiegand, Southern California; Bill Brien, Weco Division, Houston; Monk Cook, Southern California; Al Plomp, Chiksan of Canada, Calgary; Howard Dickson, Southern California; Lee Guill, Chicago; Chuck Holcomb, Weco Division, Houston; Bev Ragsdale, Chicago; Hal Stock, Oakland; and Art Edwards, Southern California.

from remote controls. In addition to these products, other recently designed and developed Chiksan swivel joints were introduced.

During the three-day session, each Chiksan department made presentations designed to provide the sales force with new appreciation for the complex workings of a growing organization. Part of the session was devoted to training of new sales techniques, with a number of films shown.

The meetings were conducted by R. T. Jones, Western Regional Sales Manager, and L. J. Smith, Eastern Regional Sales Manager.

V. C. Horner Named Assistant Manager Of BJ Oil Tool

V. C. Horner has been appointed assistant manager of the Byron Jackson Co. Oil Tool Division, according to an announcement by Robert Harcus, executive vice-president of the company.

V. C. Horner

Mr. Horner, a mechanical engineer and graduate of Rice Institute, has been with Byron Jackson Co. since 1941. He was in charge of oil tool engineering in the mid-continent region and for the past four years has been general manager of the BJ Hydralift Division which manufactures hydraulic oil-well pumps.

The Byron Jackson Oil Tool Division is headquartered in Los Angeles, California.

Left to right, bottom row: J. T. Doyle, Shell Oil Co.; Charles Rajnus, Ingersoll-Rand; C. D. Gard, Union Oil Co.; 2nd row: E. R. Millett, Jr., C. N. G. A. Secty.; Bill Mainland, Shell Oil Co.; K. C. Vaughan, Union Oil Co.; 3rd row: Wm. A. Kirk, Calif. Southern Oil Co.; Melvin Berscheidt, Tide Water Associated Oil Co.; Wm. O. Kirk, Jr., Pacific Coast Gasoline Co.; top row: C. L. Case, Continental Oil Co.; Richard Jenkins, Clark Bros., Inc.

Large C.N.G.A. Delegation Attends Annual Meeting in Dallas

Over twenty-five members of the California Natural Gasoline Association attended the 34th Annual Meeting of the Natural Gasoline Association in Dallas. One of its members, C. D. Gard, Union Oil Co. of California, was elected a vice-president at the annual election as announced at the association's President's Luncheon.

Those in attendance were: C.N.G.A. President A. C. Lyles, M. W. Kibre, General Petroleum Corporation; K. C. Vaughan, C. D. Gard, Jack Wilson, Union Oil Company; J. T. Doyle, Wm. Mainland, Shell Oil Company; R. W. Heath, J. B. Taylor, Harvey Menard, Signal Oil & Gas Co.; Warren H. Kraft, Honolulu Oil Corp.; L. V. Cassady, Lomita Gasoline Company; C. L. Case, Continental Oil Company; Wm. A. Kirk, California Southern Oil Co.; Bill Kirk, Pacific Coast Gasoline Co.; H. J. Maxwell, Standard Oil Company; Melvin Berscheidt, Tide Water Associated Oil Co.; A. A. Quarnstrom, Richfield Oil Corporation; George Gaulding, Western Gulf Oil Co.; C. J. Rajnus, Ingersoll-Rand Co.; Richard Jenkins, Clark Bros., Inc.; M. A. Ellsworth, Fluor Corp., Ltd., and E. R. Millett, Jr., Secretary, C.N.G.A.

Tyler F. Woodward, president, and Robert G. Bundy, secretary-treasurer, Southern California Petroleum Corporation, have returned to Los Angeles from Zurich, Switzerland, where they attended the stockholders' meeting of the International Egyptian Oil Company. International Egyptian was originally formed and financed by a Swiss group, with Southern California Pete acting as contractor and its American technicians in charge of field work. Woodward has been a director of the Egyptian company since its incorporation in 1953.

Charles E. Fountain has been appointed assistant to the manager of the employee relations department of Tide Water Associated Oil Company headquarters at San Francisco.

Gerry Donahue, public relations chief of Richfield Oil Corporation in the 1930s, is now in the printing business in Los Angeles.

Baash-Ross Names Paul Nagle Export Manager

Hal Messinger, General Sales Manager for Baash-Ross Tool Company, Division of Joy Manufacturing Company, has announced the promotion of Paul R. Nagle to Export Manager for the Baash-Ross organization.

Paul Nagle

Nagle, having served as Assistant Export Manager for the company during recent years, has had wide experience in the oil industry. He not only is familiar with domestic operations, having spent many years in drilling and development work in the Mid-Continent area, but also is conversant with the varied requirements of overseas operations.

Nagle will continue to maintain his headquarters in New York City at 250 Park Avenue.

Kalpure Oil Company of San Francisco has retained the consulting services of F. A. Menken and W. E. Dillon, petroleum geologists. Menken, a vice president of Tide Water Associated Oil Company until his resignation several months ago, served as exploration manager for the western United States and Canada for that concern for many yeears. Dillon was assistant vice president and exploration geologist.

Horner Advances at Shell

Jack A. Horner, secretary of Shell Oil Company, has been appointed vice president in charge of the licensing division of Shell Development Company, it was announced by Harold Gershinowitz, president of Shell Development. In addition to his new post with Shell's research affiliate, Mr. Horner will retain his present position with the parent company.

An eighteen-year veteran with Shell, Mr. Horner has been its secretary since April 1953. He joined the firm as a member of the legal department. He was appointed assistant to the president in 1943. In 1949, he was named assistant secretary. Mr. Horner is a native of Oklahoma City and a graduate of the University of Oklahoma.

The Petroleum Wives organization of Bakersfield, Mrs. A. J. Macmillan, president, heard all about interior decorating at its last meeting in the Racquet Club in the Kern County oil city. Robert Doyle, an interior decorator for 20 years, discussed "Decorator's Digest."

J. A. Horner

Virginia Larson, longtime secretary to President William Keck of Superior Oil Company in Los Angeles, has returned to her duties after a siege in the hospital.

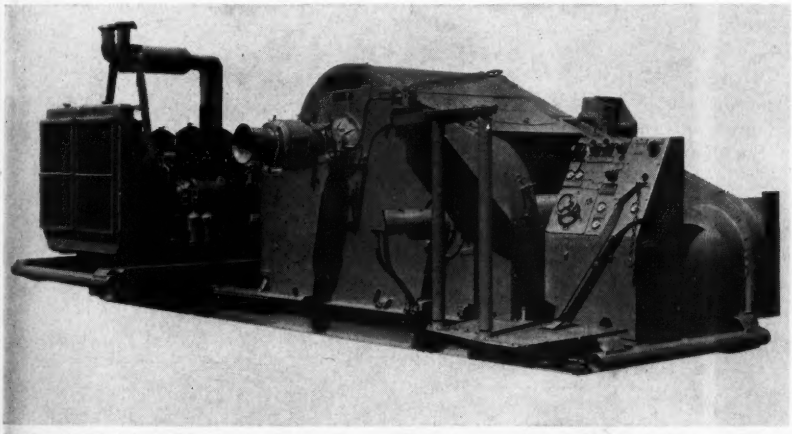
Edwin W. Pauley, leading Los Angeles oil man, has extended his many business interests by offering a bid for the Federal Government's synthetic rubber plant at Baytown, Texas.

Gathered in the medical examination room of General Petroleum Corporation for presentation of a Certificate of Health Maintenance by the Occupational Health Institute were, right to left, Dr. E. P. Luongo, medical director for the company; Dr. Jerome Schilling, Occupational Health Institute official; A. J. Donnelly, vice president and director of industrial relations for General Petroleum, and E. S. Hochuli, manager of the company's industrial relations department. Mr. Donnelly is holding the certificate presented to General Petroleum in recognition of its medical program for employees.

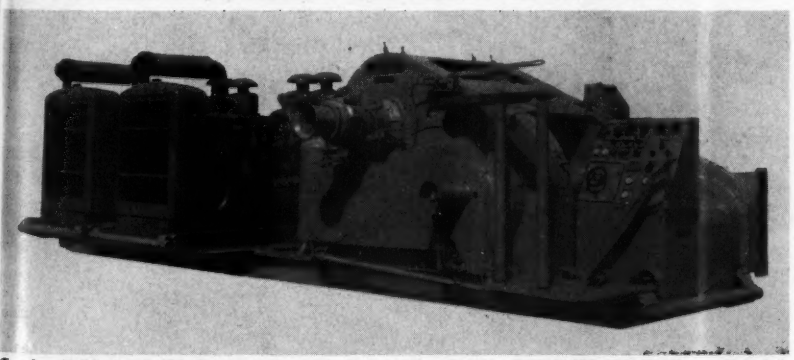
Cardwell Announces New Draw Works

The model J-450 twin-engine draw works and the companion model, the S-350 single engine draw works, both available with engines up to 520 H.P., have been announced by Cardwell Manufacturing Company, Wichita, Kansas.

These new draw works have proved to be extremely fast in operation and are equipped throughout with the new Cardwell Model 39 air friction clutches. All clutches are mounted on the outside of the frame and are readily accessible. The basic construction of the hoists have been "fabriformed," resulting in a lighter weight draw works than any previous model of their capacity. The oil bath drives are fully enclosed and pressure lubricated. The design of Model J-450 and Model S-350 includes a high pressure air system reduced for clutch operation resulting in a drier system with less moisture trouble. A 22-inch single Hydrotarder is built into the main frame. The Model J-450 is available with sand line drum, mud pump drive and a reverse for the entire rig. The Model S-350 is available with sand line drum and a reverse for the entire rig. Fawick air clutches are offered as optional equipment.



Cardwell Model S-350 Single Drum Draw Works powered by General Motors Model 12107 with Allison Torque Converter. Kelco Catheads and Reverse Gear.



Cardwell Model J-450 Drawwork, with Sand Line Drum, GM 62405 TC Engines, Fawick Clutches, Reverse 22" Hydromatic Brake.

Howard Supply Company Buys Steel Firm

Acquisition of the Commonwealth Steel and Supply Co., a twenty-four year old firm, has been announced by Howard Supply Company. Commonwealth is an important distributor of steel, nails, wire and fasteners. The company serves about eight hundred customers in Southern California and will continue to operate as a wholly owned subsidiary of Howard Supply Co.

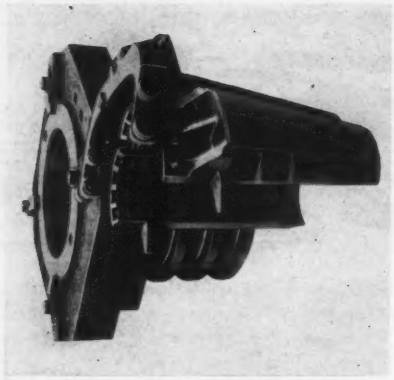
"Purchase of Commonwealth is part of a long range diversification program designed to make our services available through a wider range of products," according to Harold E. Howard, President. With the acquisition of Commonwealth Steel, Howard Supply Co. will have a total of thirteen warehouses in California, from which they serve the oil industry and other types of industrial concerns.

New BJ Casing Bowl Extends Range of Type "B" Power Slips

Byron Jackson Co. announces a new supplementary piece of equipment called the BJ Casing Bowl, which enables its BJ Type "B" Power Slips to handle casing sizes up to and including 13⅜".

This is accomplished by replacing the master bushing in the rotary table with the BJ Casing Bowl and using extra-long slips designed for use with the bowl. These extra-long slips, together with a special carrier, replace the standard slips and carrier unit of the BJ Power Slips, thus extending the use of present equipment and permitting the handling of a greater range of casing sizes at a minimum of expense. The casing bowl is of a solid one-piece construction with a capacity of 300 tons.

The standard length slips of the BJ Power Slip handle all drill pipe and casing sizes from 2⅜" to 7", but with the special BJ Casing Bowl and the extra-long slips pro-



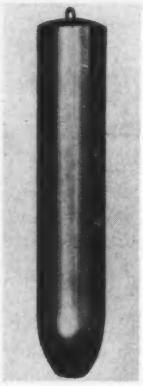
Byron Jackson Casing Bowl extends range of Type "B" Power Slips.

vided, casing sizes from 4½" to 13⅜" can be handled.

The new BJ Casing Bowl is available as supplementary equipment with BJ Type B Power Slips, or it can be ordered to extend the range of slips in use already in the field.

Further information and details on the BJ Casing Bowl are available by writing or contacting: Byron Jackson Co., Oil Tool Division, P. O. Box 2017, Terminal Annex, Los Angeles 54, California.

Bottom Hole Indicating Plug



The Cavins Company announces the introduction of its recently developed and highly successful Bottom Hole Indicating Plug. Its purpose is to give an immediate and definite indication to the well clean-out crew that the well bottom has been reached and that further time spent in running the tools will be wasted or might result in damage to the well casing and the tools.

It is cast of a cement-like material which is impregnated with a bright yellow pigment, making it easily distinguishable from the material that is being cleaned out. The plug will not leach or fade regardless of how long it stays in the well. When the well has been cleaned out to bottom, one plug will last for a great many clean-out jobs.

It may be either slipped into the first joint of a liner which is to be run into a new well, or if it is to be installed in an old well it may be attached to the bailer bottom with a strand of soft rope and whipped off near the well bottom. Diameters run about ¼" under the I.D. of the pipe and it is 24" long with water courses running up the side.

Kingdon Test Well Scheduled

Federal Oil Company is engaged in preparative work for its Federal-Imeson No. 1 wildcat venture on Section 26-3n-5e in the Kingdon area or six miles northwest of Stockton in San Joaquin County. Contract has been assigned to Rusty Walter Drilling Company to put the well down at a location about three miles west of earlier wildcatting. In 1945 Honolulu Oil's Brack Community No. 3 was carried to 5000 feet without success in the way of production.

Lee Laird Organizes Equipment Co.

Lee J. Laird announces the formation of the Laird Equipment and Sales Co. The new offices and warehouse, located at 2222 East Spring St., Long Beach, give adequate facilities for increased parts stock and servicing for Cardwell Drilling and Production Rigs.

Service for Cardwell Rigs in the San Joaquin Valley is available at 1221 33rd St., Bakersfield, phone Fairview 5-2413.

Missile Containers Contract Awarded American Pipe & Steel Corporation

A contract of close to $400,000, for the manufacture of steel containers for the "Corporal" Guided Missile, has been awarded to American Pipe & Steel Corporation of Alhambra, California, by U. S. Army Ordnance. The containers, designed for the shipment, storage, and preservation of the huge "Corporal" Missile, will be produced at the main Alhambra Plant of this 50 year old steel and aluminum fabricating company. The American Pipe & Steel Corporation, founded in Alhambra, California, in 1903, is one of the oldest independent steel and aluminum fabricating companies on the West Coast.

Beehive Bend Wells Suspended

Two drilling jobs in the Beehive Bend field of Glenn County have suspended operations. General Petroleum's Miner-Jones No. 1 on Section 3-19n-2w stopped drilling at 7492 feet, and Sunray Oil's Sunray-General Petroleum-Whyler-Michael Unit No. 1 on Section 12-19n-2w at 6258 feet. General, meantime, is drilling at 1500 feet with its Moore-Benson Unit No. 1 on Section 24.

Pictured above the new offices and warehouse of Laird Equipment and Sales Company.

Portrait by Fabian Bachrach

Bell Aircraft has 13,000 payroll savers

"From every point of view, the purchase of U. S. Savings Bonds contributes to the soundness of our economy and to the individual security of our citizens. I am proud that at Bell Aircraft our employees are helping to strengthen the national economy and their own future security through the Payroll Savings Plan.

"In a recent campaign Bell employees achieved a record of nearly 99% participation in the Payroll Savings Plan, bringing to 13,000 the total number of our employees who are saving systematically through the regular purchase of Savings Bonds."

LARRY BELL, ***President Bell Aircraft Corporation***

If your company does not have the Payroll Savings Plan, or if you have the Plan and employee participation is less than 50%—get in touch with Savings Bond Division, U. S. Treasury Department, Washington, D. C. Your State Director, U. S. Treasury Department, will be glad to help you install a plan or show you how easy it is to build employee participation in your present plan.

The United States Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

CALIFORNIA OIL WORLD

THIS

LAUGH

OFF!!

That a certain young man was wise beyond his years was proved when he paused before answering a widow who had asked him to guess her age.

"You must have some idea," she said.

"I have several ideas," he replied with a smile. "The only trouble is that I hesitate whether to make you ten years younger on account of your looks, or ten years older on account of your intelligence."

Why is it that people who don't know whether they are coming or going are usually in such a big hurry to get there?

A famous matador was fighting in the bull ring in a Mexican border town. Among the spectators was an old cowhand who was seeing his first bull fight.

The fight had reached the stage where the matador, armed with only a cape, was taunting the bull, avoiding the animal's horns by fractions of an inch and flipping the cape aside as the bull charged past.

At last the old cowhand could stand it no longer. He arose and shouted: "Buddy, he ain't never going to run into that sack unless you hold it still!"

As he paid his bill, the departing guest turned and yelled to the bell boy. "Quick, run up to room 523 and see if I left my razor. Run, because I've just eight minutes to catch my train."

Five minutes later the boy raced back to report breathlessly, "Yes, sir, it's up there."

The colonel inspecting a new group of draftees was somewhat astonished to find a graybearded old gaffer standing conspicuously among the smooth-faced youngsters. "Tell me, Dad," he asked, "how did you happen to be here?"

"Well, sir," he replied, "I happen to have a twin sister who, like all women, is sensitive about her age. Everyone in town knew we were twins. Now I don't rightly know what age she was giving out—but here I am!"

Square: A guy who takes a girl to a drive-in theatre and watches the movie.

With Violet cuddling in his arms,
He drove a car—poor silly.
Where he once held his Violet,
He now holds a lily.

Again in 1954 as in 1953

PETERS FORMATION LOGGING SERVICE CO.

our geological logging teams logged **twice as many oil pool discoveries* as** all other logging companies in California put together.

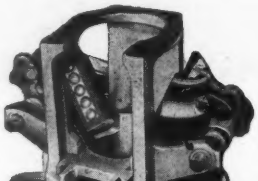
Among these new pool discoveries in 1954 were:

Long Beach Airport
Bandini Area, East Los Angeles
Sunset Beach New Pools
Belgian Anticline New Fault Blocks
New Pool at Maricopa
New Pool at Yorba Linda
and others.

***Our men know what they are looking for and what the log of a producing well looks like.**

FORMATION LOGGING SERVICE CO.
PETERS LOGGING SERVICE

3434 W. 43rd St. Tel. AX 2-0725
Los Angeles 8, Calif. AX 4-5503



(Pat. Pend.)

Air-powered

TUBING SPIDER

(A Cavins Co. Product)

Two of the many reasons why you will be glad to own an

Advance
TUBING SPIDER

1 **Safety:** The Spider is equipped with a manually operated safety latch which may be used to positively lock the slips in their closed position.

2 **Allows Stripping:** Slip design and low working pressure allow operator to strip tubing and collars up through the slips while they are in closed position. Also the slips cannot be accidentally thrown away from the tubing if the tubing should part or slide.

Bulletin TS-54 tells the whole story.
We invite you to send for your copy.

Advance Oil Tool Co.

2853 Cherry Ave., Long Beach 6, Calif., Ph. 485-64

Mid-Continent Rep: Hillman-Kelley
Export Rep: Roland E. Smith